Isle of Anglesey County Council	
Report to:	**Executive Committee**
Date:	**22 October 2024**
Subject:	**Draft Flood Risk Strategic Plan**
Portfolio Holder(s):	**Councillor Dafydd Rhys Thomas**
Head of Service / Director:	**Huw Percy** **Head of Highways, Waste and Property Services**
Report Author: Tel: E-mail:	**Rowland Thomas** **01248 752312** **rowlandthomas@ynysmon.llyw.cymru**
Local Members:	**Applicable to all elected members**

A –Recommendation/s and reason/s

The Executive Committee is asked to approve and support the draft Flood Risk Strategic Plan (and the Local Flood Risk Management Strategy (LFRMS)) for consultation with the public and key stakeholders.

The Flood Risk Strategic Plan provides a summary of the LFRMS and follows the Council's strategic planning format. Both documents set out the Council's ambitions for managing flood risk in Anglesey for a six year period.

The documents present following nine key priority areas (KPA) (objectives), which have been developed in consideration of Welsh Government's National Strategy and Anglesey's local policies and plans:-

1. Improve understanding of local flood and coastal risks
2. Improve communication
3. Increase preparedness and resilience
4. Collaborate to reduce flood and coastal risk
5. Minimise the risks and impacts of flooding and coastal erosion
6. A sustainable and holistic approach
7. Where possible, prioritise investment to the most at risk communities
8. Provide an appropriate effective and sustained response to flood and coastal erosion events
9. Use knowledge and data to inform planning decisions and policy formulation

They also explain the roles and responsibilities, both internally and externally in relation to managing flood risk.

A series of measures have been developed to ensure delivery and an action plan presents the specific tasks and commitments needed by the Isle of Anglesey County Council to ensure the KPA (objectives) are met.

Mae'r ddogfen hon hefyd ar gael yn Gymraeg / This document is also available in Welsh

A –Recommendation/s and reason/s

The strategic plan and action plan will be reviewed annually to ensure successful delivery.

The strategic plan has been prepared alongside a Flood Risk Management Plan (FRMP), which identifies local flood risk through predicted flood risk and recorded flooding incidents.

B – What other options did you consider and why did you reject them and/or opt for this option?

Once approved by the Executive Committee and Welsh Government, the Flood Risk Strategic Plan (and the LFRMS) will replace the existing strategy.

It is a requirement to undertake consultation to inform preparation of the Flood Risk Strategic Plan (and LFRMS).

C – Why is this a decision for the Executive?

The decision is sought from the Executive as approval is needed for the Plan to become a public document and consulted upon.

Ch – Is this decision consistent with policy approved by the full Council?

The Strategic Plan (and LFRMS) has been aligned to the Council Plan and all KPA (objectives) have been defined to complement existing Council commitments to the environment and its constituents.

D – Is this decision within the budget approved by the Council?

The development of the Flood Risk Strategic Plan has been funded through existing revenue budgets and annual flood risk management allocation from Welsh Government.

The Flood Risk Strategic Plan commits to revenue and capital investment, ranging from updating and developing polices, to investigating the viability of flood alleviation schemes in ‘at risk’ areas.

Welsh Government currently provides annual flood risk management revenue funding of £225,000. The is used to subsidise the Council’s statutory and non-statutory commitment to flood risk management. The LFRMS and Strategic Plan

D – Is this decision within the budget approved by the Council?
has been development on the assumption that this funding commitment will continue for the full life of the strategy. We have recently been made aware that the allocation will be reduced to £191,000. In addition, Welsh Government invite funding applications to investigate the viability and delivery of flood alleviation schemes. Subject to funding approval, Welsh Government commit to 85% funding towards assessment, design and construction. The Council is required to fund the remaining 15% of all project costs. In order to fully deliver the action plan, the Council will need to continue to provide capital investment and ensure appropriate resources are available to manage and deliver any potential schemes. The Council has a statutory duty to form a SuDS (sustainable drainage features) Approving Body (SAB) for all developments with drainage implications of 100m² or more. Where the development includes shared assets, the Council has a duty to reach an agreement to adopt the shared drainage features following construction. The SAB application fees are fixed in accordance with the Flood and Water Management Act. Within the LFRMS and Strategic Plan, the Council proposes to implement a pre-application service. This has the potential to generate additional income along with providing local clarity and advice for developers. The existing pre-application service is currently delivered on an ad-hoc basis without charging. Where applicable, the Council will look to work collaboratively with Risk Management Authorities (RMA) to reduce flood risk. As part of this process, the Council will investigate the possibility of third party funding investment.

Dd – Assessing the potential impact (if relevant):		
1	How does this decision impact on our long term needs as an Island?	Future flood risk is predicted to increase in Anglesey into the future. There is therefore a clear need to manage risk as much as is reasonably practical.
2	Is this a decision which it is envisaged will prevent future costs / dependencies on the Authority? If so, how?	The Council has a legal duty to maintain many flood risk assets. The action plan proposes to use the latest technologies to improve records and improve maintenance schedules. This will create opportunities to repair and manage assets as opposed to wholesale replacement costs when they become defective. Through identifying 'at risk' areas, the Council has the opportunity to apply for Welsh Government funding to reduce flood risk in the county.
3	Have we been working collaboratively with other	Internal and cross-service collaboration on the development of the strategic plan

Dd – Assessing the potential impact (if relevant):		
	organisations to come to this decision? If so, please advise whom.	to help shape the objectives and define internal roles and responsibilities.
4	Have Anglesey citizens played a part in drafting this way forward, including those directly affected by the decision? Please explain how.	A workshop was held with elected members to input into the draft strategic plan. The draft strategic plan will be subject to a period of public consultation.
5	Note any potential impact that this decision would have on the groups protected under the Equality Act 2010.	An equality impact assessment is required, and currently being prepared. The LFRMS and Strategic Plan aims to offer citizens benefits impacting all society.
6	If this is a strategic decision, note any potential impact that the decision would have on those experiencing socio-economic disadvantage.	An equality impact assessment is required, and currently being prepared. Reduced flood risk to communities has the potential to offer a positive impact on house prices and home insurance premiums.
7	Note any potential impact that this decision would have on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language.	An equality impact assessment is required, and currently being prepared. No negative impacts identified.

E – Who did you consult?		What did they say?
1	Chief Executive / Leadership Team (LT) (mandatory)	Comments from the Leadership Team have been incorporated into the report
2	Finance / Section 151 (mandatory)	Comments from the Section 151 Officer have been incorporated into the report
3	Legal / Monitoring Officer (mandatory)	Comments from the Monitoring Officer have been incorporated into the report.
4	Human Resources (HR)	No direct impact on staff.
5	Property	N/A
6	Information Communication Technology (ICT)	N/A
7	Procurement	N/A
8	Scrutiny	N/A
9	Local Members	A workshop was held on 13/02/24 with local members to help inform the LFRMS and Strategic Plan. Members briefing to take place prior to public consultation, 07/11/24.

F - Appendices:
1. Draft Flood Risk Strategic Plan 2. Draft Local Flood Risk Management Strategy (full copy)

Ff - Background papers (please contact the author of the Report for any further information):

Mae'r ddogfen hon hefyd ar gael yn Gymraeg / This document is also available in Welsh

Ynys Môn
THE ISLE OF
Anglesey

Flood Risk Strategic Plan

DRAFT

To be reviewed every 6 years

Mae'r ddogfen hon hefyd ar gael yn y Gymraeg /

This document is also available in Welsh.

CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL

www.anglesey.gov.wales

Foreword

Climate change is the globally defining challenge of our time and for future generations. This includes Anglesey, its residents, visitors and communities.

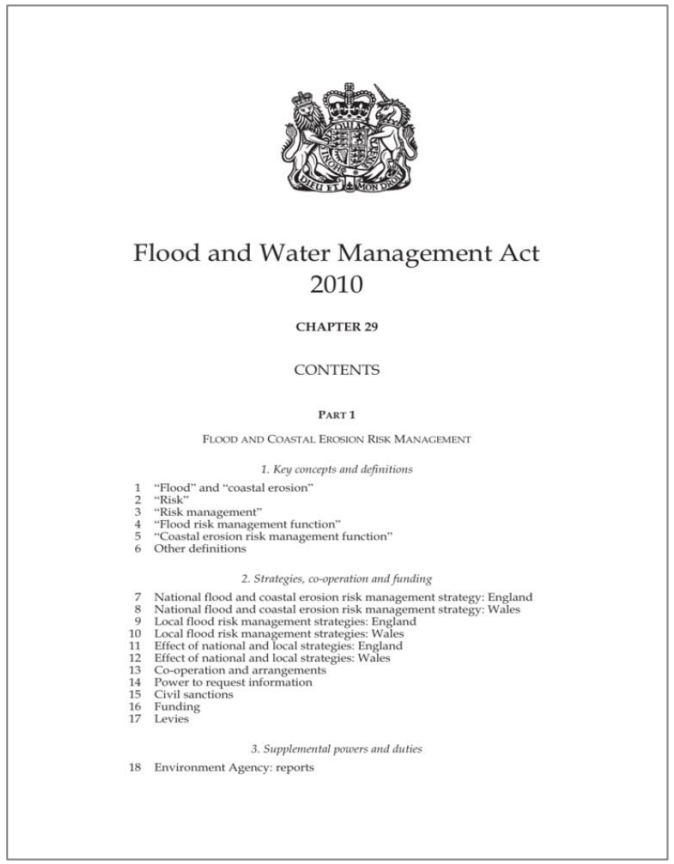
Climate change will bring rising sea levels and more intense storms. We need to make tough decisions on how to manage the associated risks to ensure climate resilience.

This strategic plan strengthens our stance on prevention and links with our Council Plan, Capital Strategic Plan other strategic plans to ensure we address the short and long-term risks in a proactive and efficient way.

Our approach encourages wider resilience, prevention and awareness, so better decisions can be made, by the public and those who have an influence on development and climate adaptation. Collaboration with partners, including agencies and our communities to limit the effects of climate change is essential. It is not possible to remove all risk, but we can manage it and help reduce its impact.

Whilst the Council is committed to reducing risk, the void between ambition and the ability to deliver is growing due to the continuous strain on resources and capacity, especially in the current financial challenge. Support from the Welsh Government is crucial for delivery.

Why do we need a Flood Risk Strategic Plan?



Flood and Water Management Act 2010

CHAPTER 29

CONTENTS

PART 1

FLOOD AND COASTAL EROSION RISK MANAGEMENT

1. Key concepts and definitions

1 "Flood" and "coastal erosion"
2 "Risk"
3 "Risk management"
4 "Flood risk management function"
5 "Coastal erosion risk management function"
6 Other definitions

2. Strategies, co-operation and funding

7 National flood and coastal erosion risk management strategy: England
8 National flood and coastal erosion risk management strategy: Wales
9 Local flood risk management strategies: England
10 Local flood risk management strategies: Wales
11 Effect of national and local strategies: England
12 Effect of national and local strategies: Wales
13 Co-operation and arrangements
14 Power to request information
15 Civil sanctions
16 Funding
17 Levies

3. Supplemental powers and duties

18 Environment Agency: reports

The Flood and Water Management Act (FWMA) 2010 requires all 22 Lead Local Flood Authorities (LLFAs) in Wales to produce a Local Flood Risk Management Strategy / Strategic Plan. FWMA 2010 identified Isle of Anglesey County Council as the LLFA for the district. Different Risk Management Authorities (RMAs) in Wales are responsible for different sources of flood risk. LLFAs are responsible for "local flood risk" which is defined as flood risk from:

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

This strategic plan explains how flooding will be managed across Anglesey. It also presents a summary of our Local Flood Risk Management Strategy (LFRMS), which is our second Local Strategy. Whilst we previously published our LFRMS and Flood Risk Management Plan (FRMP). separately, the new Strategy integrates a FRMP.

Flood and Water Management Act 2010

Data

Stats Wales outlines that the following numbers of properties in Anglesey are at risk of flooding from the following main flooding sources based on the 2019 initial publication of the Flood Risk Assessment Wales (FRAW):

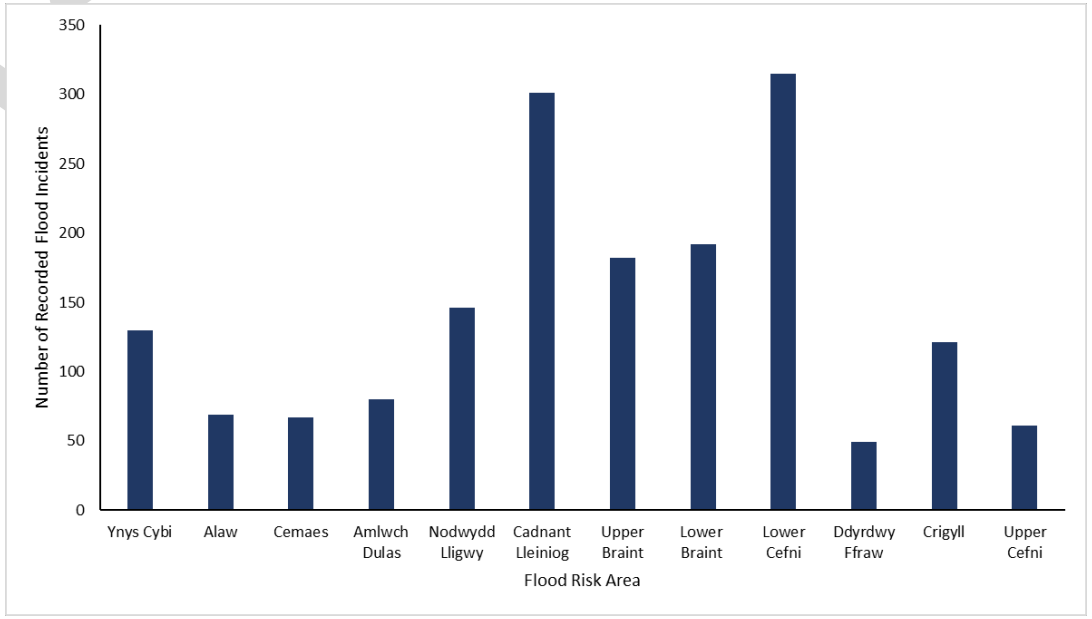
230
Rivers

2,093
Surface Water & Small watercourses

503
Tidal

Recorded Flood Incidents in Anglesey since 2012

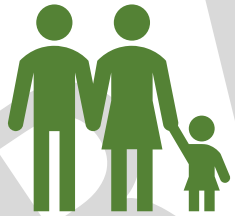
- These flood records could relate to flooding from any source.
- This data provides an addition to the data from the FRAW maps (annex A, B, C), potentially identifying areas at risk which are not shown on the flood maps.



Who is the Strategic Plan for?

Residents, communities and landowners

- Help protect them from the risk of flooding
- Identify and manage high-risk areas
- Defined roles and responsibilities
- Inform decision making



Isle of Anglesey County Council

- Guide decision making and FRM
- Inform infrastructure investments
- Align planning objectives with flood risk management
- Ensure climate resilience
- Inform grant applications

Risk Management Authorities

- Collaborate with them on flood risk management (FRM)
- Guide effective resource allocation
- Align with the National Strategy objectives

Cyfoeth Naturiol Cymru
Natural Resources Wales

Llywodraeth Cymru
Welsh Government

Dŵr Cymru
Welsh Water

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Council Plan 2023-2028 Strategic Objectives

The Council Plan is the key document serving as a focal point for decision-making at all levels; providing a framework to plan and drive forward priorities; shape annual spending; monitor performance and progress.

At its core is our desire to work with Anglesey residents, communities and partners to ensure the best possible services, improve the quality of life for all and create opportunities for future generations.

It's six main objectives reflect the key areas the Council should be focusing its efforts on:

The Council Plan's vision is to:

'Create an Anglesey that is healthy and prosperous where people can thrive.'

The Welsh Language

Increase the opportunities to learn and use the language.

Social Care and Wellbeing

Providing the right support at the right time.

Education

Ensuring an effective provision for today and for future generations.

Housing

Ensuring that everyone has the right to call somewhere home.

Economy

Promoting opportunities to develop the Island's economy.

Climate Change

Responding to the crisis, tackling change and working towards becoming net zero organization by 2030.

Council Plan 2023 to 2028 (gov.wales)

Council Plan 2023-2028 - Values

The Council Plan 2023-28 is underpinned by the organisation's core values, which are used to develop and guide the vision, strategic plans and services.

Respect

We are respectful and considerate towards others regardless of our differences .

Collaborate

We work as a team, with our communities and partners to deliver the best outcomes for the people of Anglesey.

Honesty

We are committed to high standards of conduct and integrity.

Champion the Council and the island

We create a sense of pride in working for the Council and present a positive image for the Council and the Island.

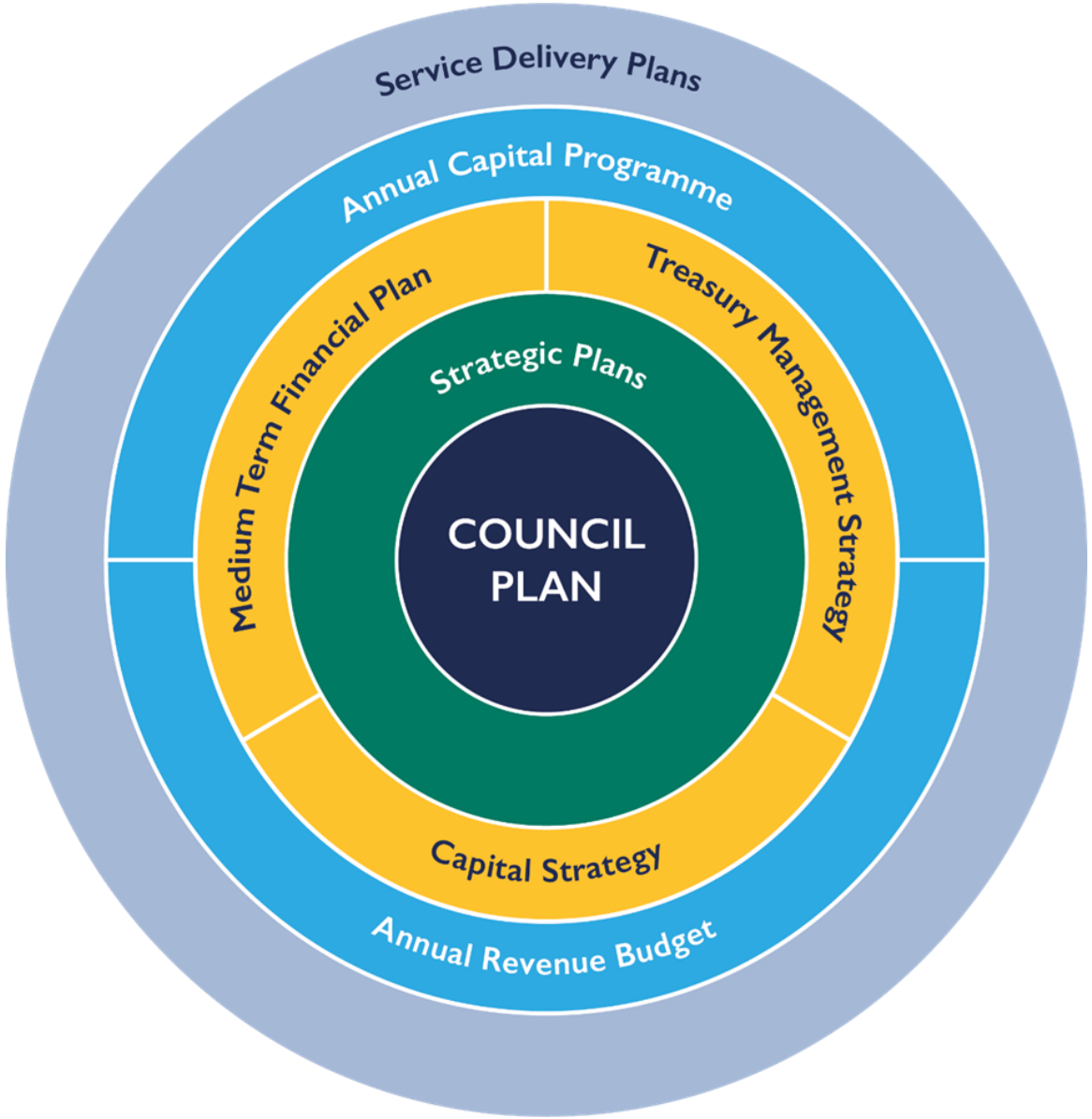
Council Plan 2023 to 2028 (gov.wales)

Strategic circle

The strategic circle identifies the plans in place to ensure we can achieve our priorities and objectives.

This plan is a key strategic plan that aligns with the Council's Plan and contributes to the achievement of the strategic objectives and vision.

In addition, there are several other national and regional plans which align with this strategic plan (annex D).



Key priority areas

The key priority areas have been developed to align with the National Strategy objectives (annex E) and reflect our local context and priorities.

- Improve understanding of local flood and coastal risks
- Improve communication
- Increase preparedness and resilience
- Collaborate to reduce flood and coastal risk
- Minimise the risk and impacts of flooding and coastal erosion
- A sustainable and holistic approach
- Where possible, prioritise investment to the most at risk communities
- Provide an appropriate, effective and sustained response to flood and coastal erosion events
- Use knowledge and data to inform planning decisions and policy formulation

Improve understanding of local flood and coastal risks

Why is this important?

To enable informed decision making, supporting better land use, effective mitigation strategies e.g flood defences and early warning systems and to ensure Anglesey is climate resilient.

What are we going to do?

- Update the Flood Risk Management System and conduct a thorough review of asset data.
- Develop a culverting policy and create comprehensive plans to assess the condition of drainage assets across the county.
- Review and refine council policies on new and existing highway drainage connections to align with best practice for FRM.

How are we going to do this?

- Record all flooding incidents
- Investigate where appropriate.
- Establish a detailed record of watercourse assets.
- Assess the condition of drainage assets.
- Develop a county-wide map based system of flood risk assets, Flood Investigation Reports, historical flooding records and areas at risk of flooding.

Improve communication

Why is this important?

Improving communication and preparation will help inform and enable positive decision making to improve resilience and reduce negative impacts, whilst enabling and improving coordination in flood prevention and response efforts to be effective.

What are we going to do?

- Provide strategic leadership and direction at a local level.
- Target areas at high risk of flooding to increase awareness of emergency procedures in the event of a flood.
- Promote and work together with groups including community flood groups.
- Ensure the website contains current and relevant information.
- Ensure that flood warning communications are accessible to as many people as possible.

How are we going to do this?

- Develop and implement a FRM Communication Strategy, through community-based awareness engagement activities and sharing of flood warning communications.
- Develop a strategic approach to supporting communities pre, during and post flood events.
- Review and update council website to ensure helpful and current FRM information is available.
- Develop a standard set of responses for the council to address concerns and complaints, ensuring transparency and public awareness.

Increase preparedness and resilience

Why is this important?

Reducing the impact of flooding on communities, infrastructure, and the environment is critical, whilst enabling a faster response and recovery during flood events.

What are we going to do?

- Support communities to better understand flood risk, to become more resilient to flooding and to manage their own flood risk.
- Collaborate with statutory bodies to promote the existing flood warning service (NRW).
- Increase public awareness of available flood prevention and resilience measures.
- Promote multiple benefits in relation to flood management schemes.

How are we going to do this?

- Develop and implement a FRM Communication Strategy, through community-based awareness engagement activities and sharing of flood warning communications.
- Develop a strategic approach to supporting communities pre, during and post flood events.
- Regularly update the council website to ensure current and accurate information is available to the public.
- Review the Councils existing sandbag policy.
- Set up an annual member briefing for FRM matters.

Collaborate to reduce flood and coastal risk

Why is this important?

Understanding roles and responsibilities is essential to ensure all efforts are coordinated, and resources are used effectively, maximising the benefits for all stakeholders. This also fosters builds trust amongst communities and authorities, promoting a unified approach to FRM.

What are we going to do?

- Maintain and share an asset register.
- Ensure effective data sharing.
- Seek partnership working opportunities so that those that benefit from existing or proposed flood management schemes can contribute towards their planning and management.
- Ensure riparian owners are aware of their duties to keep watercourses flowing freely.
- Provide support and guidance to people who wish to maintain or improve flood defences on private land.

How are we going to do this?

- Update the flood risk asset register with the latest information available for both private and publicly maintained assets.
- Develop and implement a FRM Communication Strategy.
- Review and establish a council policy on new & existing highway connections.
- Develop a standard set of responses for the council to address concerns and complaints.
- Develop a proactive coastal asset management regime
- Set up an annual member briefing for FRM matters.

Minimise the risk and impacts of flooding and coastal erosion

Why is this important?

Safeguarding individuals and communities from harm during flooding and coastal erosion events is vital. In addition, preventing financial losses, maintaining biodiversity and ecosystem services is also an essential element of climate resilience .

What are we going to do?

- Identify areas at greatest risk of flooding and prioritise FRM in those areas.
- Establish regular maintenance schedules for flood and coastal erosion risk management assets.
- Minimise disruption to essential services and critical infrastructure.
- Ensure that coastal adaptation is applied appropriately to reduce risk to individuals, communities, businesses and the environment.

How are we going to do this?

- Formalise a management process for coastal defence assets and demountable structures.
- Produce a culverting policy.
- Provide bi-annual updates on progress and review flood risk management plans.
- Develop a proactive coastal asset management regime
- Liaise with key stakeholders to identify critical infrastructure, agree roles and responsibilities to ensure services are accessible and operational during inclement weather, and attend regular collaboration meetings to share forward investment programs.

A sustainable and holistic approach

Why is this important?

A sustainable approach to FRM considers the interconnections between economic growth, environmental health and social equity, leading to more comprehensive and effective FRM solutions.

What are we going to do?

- Maximise the multiple benefits gained from flood management/alleviation schemes, including water quality, biodiversity and amenity as well as FRM.
- Encourage sustainable development within FCERM projects.
- Where feasible, promote blue-green infrastructure within FCERM projects.
- Encourage schemes involving Natural Flood Management (NFM) where appropriate.

How are we going to do this?

- Investigate the potential for Natural Flood Management (NFM) within flood management schemes.
- Set up a SAB pre app service to provide early guidance on suitable SuDS.
- Review the current SAB application process.
- Develop a proactive coastal asset management regime.

Where possible, prioritise investment to the most at risk communities

Why is this important?

Prioritising investment to the most at risk communities reduces the impact of flooding and ensures the most vulnerable populations receive the necessary resources to enhance resilience.

Targeting resources where the need is greatest also ensures that funding and expertise are used efficiently, and long-term costs of emergency responses and recovery efforts are reduced.

What are we going to do?

- Develop a capital investment programme to reduce the frequency of flooding to the most at risk areas.
- Develop a 'funding catalogue' of all potential sources of funding from public, private, voluntary and other sectors.
- Explore partnership funding with relevant Risk Management Authorities and other sources to support schemes.
- Utilise Section 19 (S19) reports to guide investment.

How are we going to do this?

- Update the Flood Risk Management system.
- Create a plan for the assessment of the existing drainage assets.
- Develop and implement a maintenance schedule for flood and coastal erosion risk management assets.
- Formalise a management process for coastal defence assets and demountable structures.
- Assess flood risk based on potential failure of council managed assets.
- Liaise with key stakeholders to identify critical infrastructure, agree roles and responsibilities to ensure services are accessible and operational during inclement weather, and attend regular collaboration meetings to share forward investment programs.
- Seek to maximise funding opportunities through promoting multiple benefits.

Provide an appropriate, effective and sustained response to flood and coastal erosion events

Why is this important?

- It reduces the impact of flooding on communities, infrastructure, and the environment.
- Crucial for minimising disruption to emergency service during and post flood event.
- Improves preparedness, thus reducing the costs of reactive measures.

What are we going to do?

- Provide appropriate and effective support and guidance to local communities, pre, during and post flood events.
- Ensure there is effective co-ordination between IoACC departments and other organisations.
- Record and investigate flood events appropriately and effectively.

How are we going to do this?

- Update the Flood Risk Management System.
- Develop and implement a Communication Strategy e.g through community-based awareness engagement activities and sharing of flood warning communications.
- Develop a strategic approach to supporting communities pre, during and post flood events.
- Establish a procedure for post-flood risk response.

Use knowledge and data to inform planning decisions and policy formulation

Why is this important?

Knowledge and data is crucial for ensuring informed decision-making, targeted resource allocation, proactive FRM and sustainable development.

What are we going to do?

- Ensure that the planning process is properly informed by considering relevant plans and policies such as the FRMP, River Basin Management Plan and Shoreline Management Plans.
- Regulate ordinary watercourses and enforce powers to maintain a free passage of flow.
- Ensure that all stages of the SAB process are effective and efficient.
- Ensure that FRM is included in the formulation of planning policy.

How are we going to do this?

- Produce a culverting policy.
- Review and update draft byelaws by WLGA and consider adoption in Anglesey.
- Set up a SAB pre-application service.
- Review the current SAB application process.
- Development of an improved SAB technical review process.
- Review of the SAB adoption / agreement process and develop a procedure for SAB enforcement.
- Establish the maintenance requirements of adoptable assets.
- Review and establish a council policy on new & existing highway connections.

Governance – Monitoring & Reporting

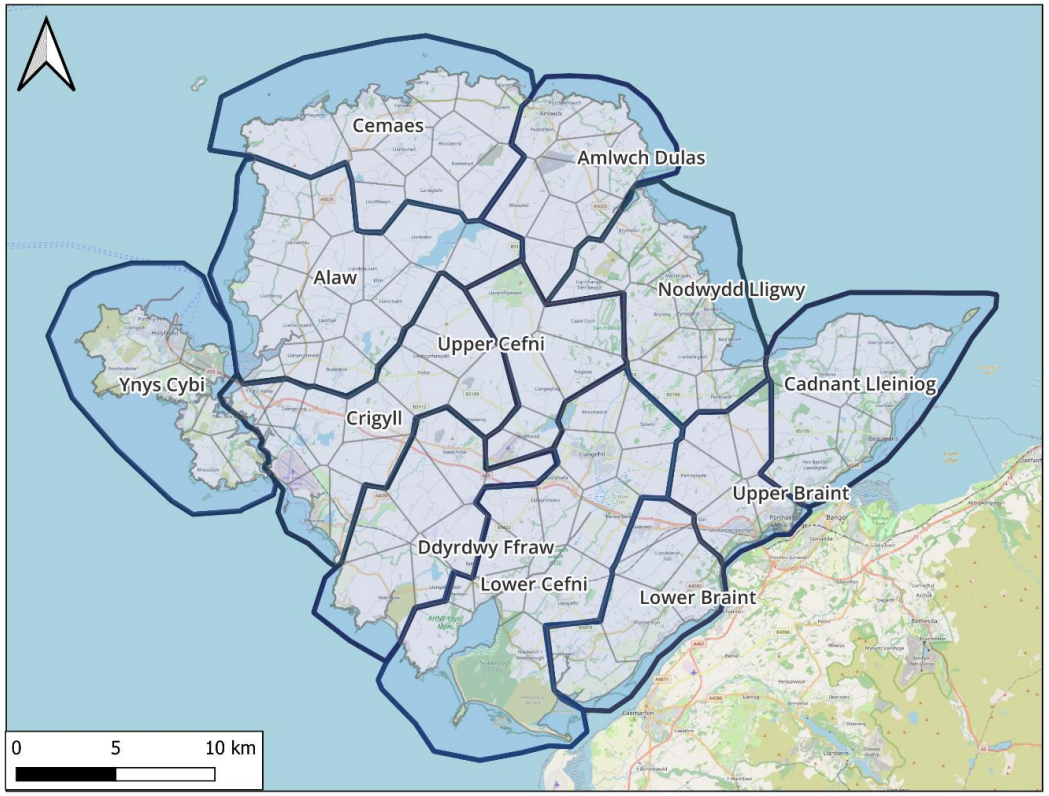
- The Strategy / Strategic Plan will be fixed for the duration for 6 years. The Flood Action Plan is appended to the Strategy / Strategic Plan and is a “living document”. It will continue to develop as new information, expertise and resources influence the delivery of the measures and actions.

- The strategic plan will be reviewed on a regular basis to monitor progression on the implementation.

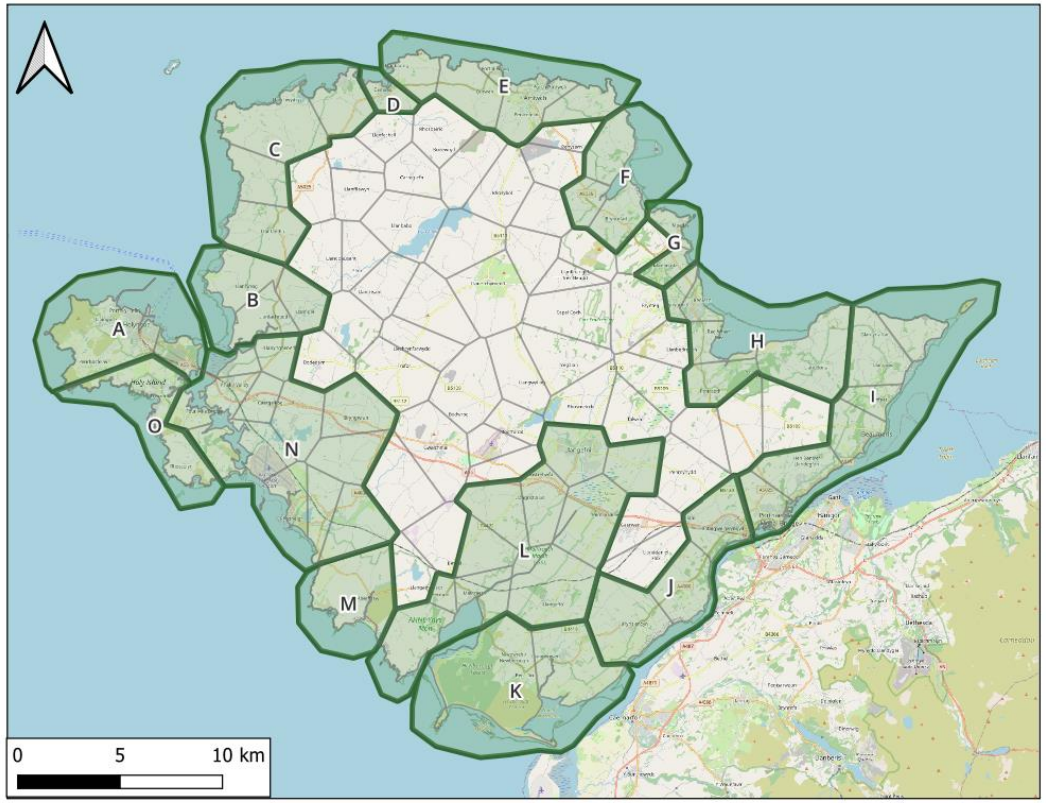
- The strategic plan should be reviewed in conjunction with the next review of the National Strategy and the Action Plans should be updated every two years, with interim progress reporting every year.

Annex A: Flood Risk Management Plan

Communities at Risk Register (CaRR) data and Coastal and Inland Catchment Boundaries have been used to create the regional and local boundaries for each scenario assessed.



Inland Flood Risk Areas in Anglesey



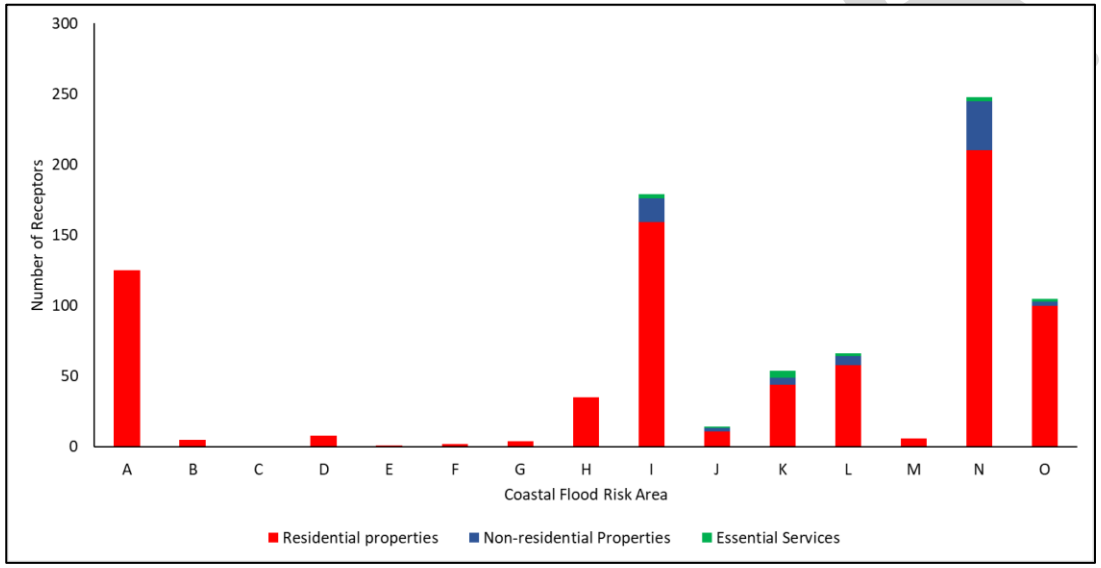
Coastal Flood Risk Areas in Anglesey

Annex B: Flood Risk Management Plan

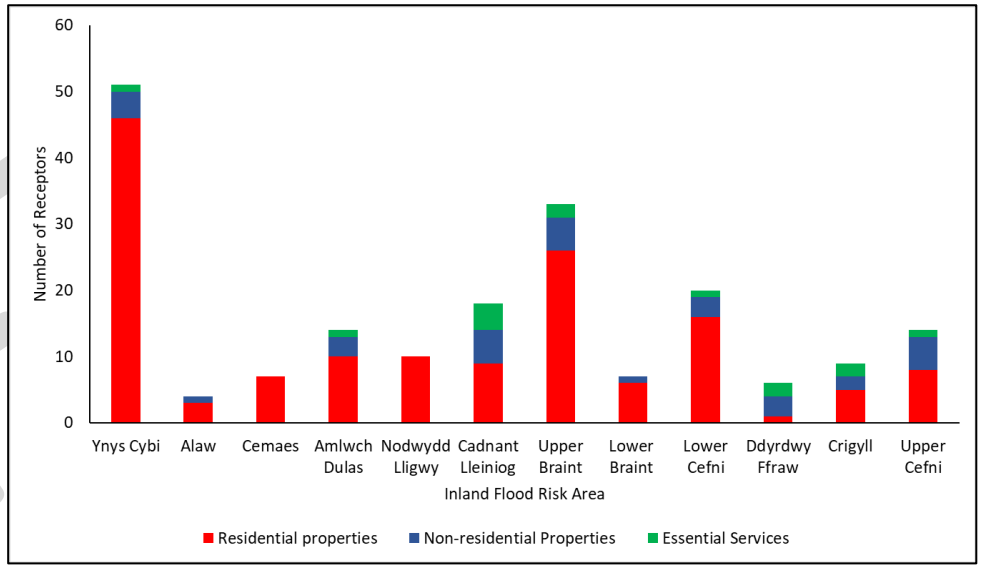
The charts below presents the predicted flood risk to risk receptors (residential properties, non-residential properties and essential services) at risk of flooding from the various sources for the high-risk event scenario.

This data is derived from the National Receptor Dataset and Flood Risk Assessment Wales (FRAW) Maps.

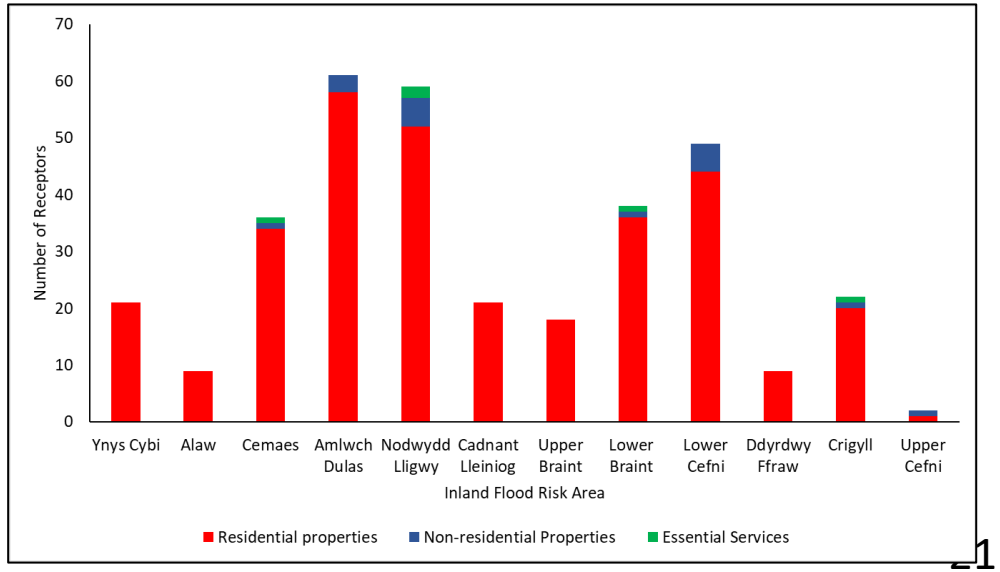
Flood Risk from Sea



Flood Risk from Surface Waters



Flood Risk from Rivers



Annex C: Summary of flood risk areas on Anglesey

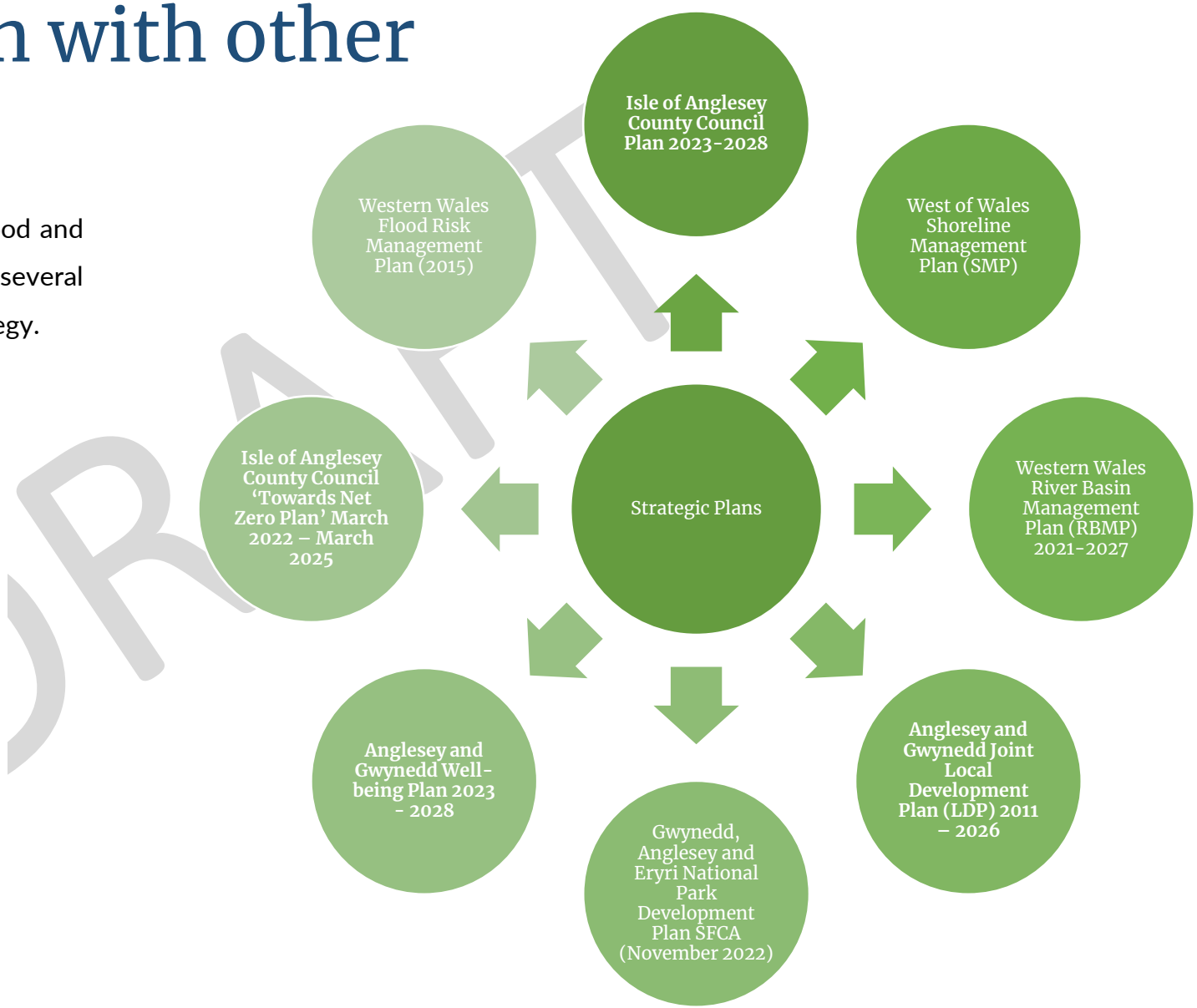
The data used to inform this assessment includes both predicted and recorded flood data

CaRR Area	Source of Flooding	Receptors at Risk
Amlwch	Rivers	Residential, Non-residential
Beaumaris	Sea	Residential, Non-residential, Essential Services
	Surface Water & Small Watercourses	Non-residential, Essential Services, Minor Roads
Benllech	Rivers	Residential, Non-residential, Essential Services
Dwyran	Sea	Residential, Essential Services
	Rivers	Residential
Dyffryn	Sea	Residential, Non-residential, Minor roads
Gaerwen	Based on flood incident data	
Holyhead	Sea	Residential, Non-residential
	Rivers	Residential
	Surface Water & Small Watercourses	Residential, Non-residential, Essential services
Llandegfan	Based on flood incident data	
Llanfair Pwllgwyngyll	Rivers	Residential, Railways and roads
	Surface Water & Small Watercourses	Residential, Non-residential, Essential Services, Railways and roads
Llanfechell	Rivers	Residential
Llangaffo	Sea	Minor roads
	Rivers	Minor roads
	Surface Water & Small Watercourses	Railways
Llangefni	Rivers	Residential, Non-residential, Railways
Llangoed	Based on flood incident data	
Llangristiolus	Surface Water & Small Watercourses	Minor roads
Malltraeth	Sea	Residential, Minor roads
	Rivers	Minor roads
Menai Bridge	Sea	Residential
Moelfre	Rivers	Residential
Pentre Berw	Based on flood incident data	
Red Wharf Bay	Sea	Residential
Trearddur	Sea	Residential

Annex D: Coordination with other Strategic plans

In addition to the Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales, there are several other national, regional and local plans which align with this Strategy.

The Seven Well-Being Goals



Annex E: Key priority areas alignment with the National Strategy objectives

	Key priority areas	National Strategy Objectives				
		A	B	C	D	E
1	Improve understanding of local flood and coastal risks	✓				
2	Improve communication	✓				
3	Increase preparedness and resilience		✓			
4	Collaborate to reduce flood and coastal risk	✓	✓		✓	✓
5	Minimise the risk and impacts of flooding and coastal erosion		✓		✓	
6	A sustainable and holistic approach		✓	✓		
7	Where possible, prioritise investment to the most at risk communities			✓		
8	Provide an appropriate, effective and sustained response to flood and coastal erosion events					✓
9	Use knowledge and data to inform planning decisions and policy formulation				✓	

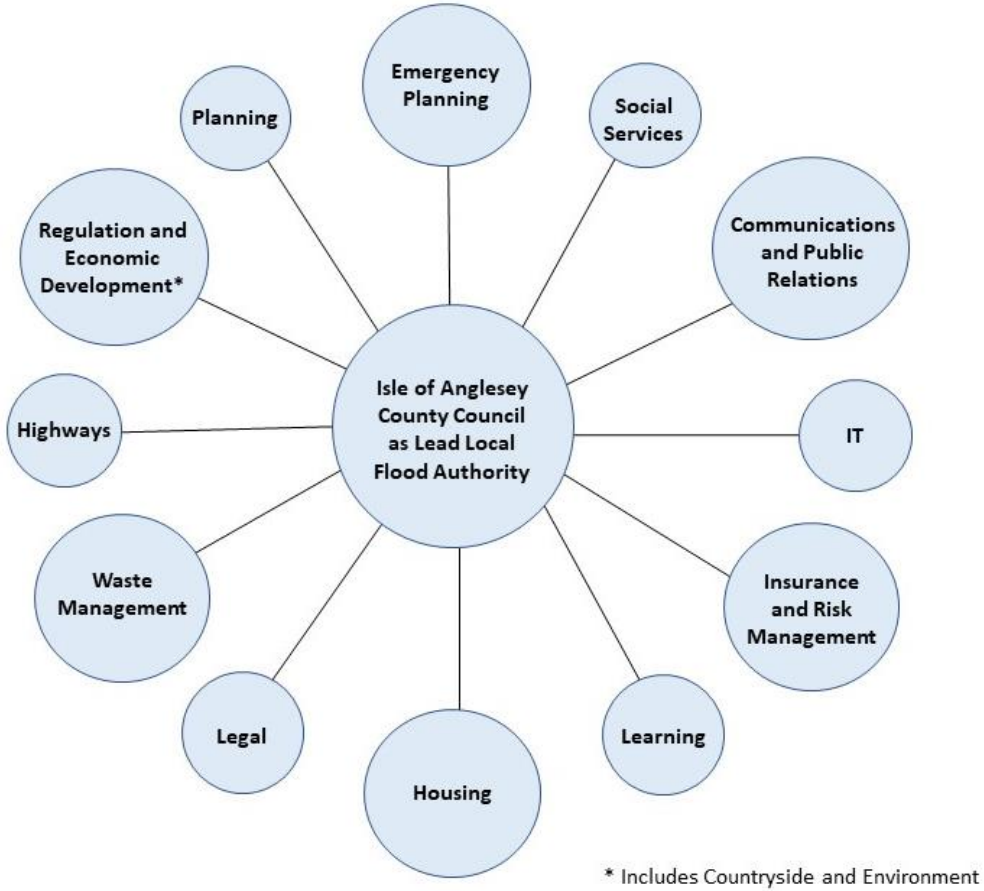
Annex F: Roles and responsibilities for managing flood risk

Isle of Anglesey Council (IoACC) are responsible for taking the lead in managing flood risk from local sources. This includes surface water, groundwater and ordinary watercourses and where there is an interaction between these sources and main rivers or the sea.

Following implementation of the FWMA, the management team for IoACC designated 'Highways, Waste and Property Services' to take the lead in ensuring the Council's compliance with legislation and to ensure that all relevant services and external agencies assist to fulfil the requirements of this Act.

The Head of Service for 'Highways, Waste and Property Services' has the delegated authority for the operational implementation of the Strategy.

The diagram illustrates the departments within IoACC that have a part to play in reducing flood risk and implementing the Act as a LLFA.



Ynys Môn
THE ISLE OF
Anglesey

Local Flood Risk Management Strategy

October 2024

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COUNTY COUNCIL

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Anglesey Local Flood Risk Management Strategy

Strategy Document

October 2024

Isle of Anglesey County Council

Issue and Revision Record

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Foreword

Climate change is the globally defining challenge of our time and for future generations. This includes Anglesey, its residents, visitors and communities.

Climate change will bring rising sea levels and more intense storms. We need to make tough decisions on how to manage the associated risks to ensure climate resilience.

This strategic plan strengthens our stance on prevention and links with our Council Plan, Capital Strategic Plan other strategic plans to ensure we address the short and long-term risks in a proactive and efficient way.

Our approach encourages wider resilience, prevention and awareness, so better decisions can be made, by the public and those who have an influence on development and climate adaptation. Collaboration with partners, including agencies and our communities to limit the effects of climate change is essential. It is not possible to remove all risk, but we can manage it and help reduce its impact.

Whilst the Council is committed to reducing risk, the void between ambition and the ability to deliver is growing due to the continuous strain on resources and capacity, especially in the current financial challenge. Support from the Welsh Government is crucial for delivery.

Prepare for flooding and what to do if your home or business has been flooded

Welsh Government provides guidance on what to do before, during and after a flood.

Welsh Government: Flood Warnings and Help

During a Flood

- If you are in danger, call 999.
- Follow the advice of the emergency services.
- Get more advice and check flood warnings on the Natural Resources Wales 'What to do in a flood' webpage.

Before and After a Flood

- Check flood warnings on the Natural Resources Wales 'Flood warnings' webpage.
- You can also sign up to receive flood warnings on the Natural Resources Wales 'Sign up to receive flood warnings' webpage.
- You can find out if your area is generally at risk of flooding from the Natural Resources Wales 'Check your flood risk by postcode' webpage.

Who to contact for further information

Isle of Anglesey County Council (IoACC) Flood and Water Management

Report localised flooding

Isle of Anglesey County Council: Report Localised Flooding

Phone 01248 752 300 or if you have a general enquiry or comment, please fill in the online form and choose the Highways option from the service drop-down menu. During an emergency outside hours please call 01248 723 062. Alternatively, you can report a flooding issue using App Môn.

What to do during and after a flood

Guidance on what to do during and after a flood event can be found within the documents found on this webpage: Isle of Anglesey County Council: What to do during and after a flood

Sandbags

Information on IoACC' s policy on sandbags can be found on this webpage:

Isle of Anglesey County Council: Sandbags

Further information relating to Flood and Water Management can be found on the IoACC website, under 'All Services – Flood and Water Management'.

1. Introduction

1.1 The need for a Local Strategy

The Flood and Water Management Act 2010 requires all 22 Lead Local Flood Authorities (LLFAs) in Wales to produce a Local Flood Risk Management Strategies (Local Strategy).

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.

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 under the Retained EU Law Act). A summary of the legislative context to FCERM activities in Wales is provided in Appendix B – legislative context.

In Anglesey our Local Flood Risk Management Strategy has been prepared alongside our Flood Risk Strategic Plan. The Strategic Plan provides a condensed version of the strategy and explains what and why a Flood Risk Management Strategy is required.

Different Risk Management Authorities (RMAs) in Wales are responsible for different sources of flood risk. LLFAs are responsible for "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 but acknowledges and considers other sources of flood risk (including the sea, larger watercourses and sewers) and associated RMAs.

All terms referred to in this strategy are described in the Glossary, provided as Appendix E.

1.2 The purpose of this Local Strategy

We published our first Local Strategy in 2013, setting out our overarching approach to managing local flood risk. Alongside the Local Strategy, a Flood Risk Management Plan (FRMP) for Western Wales was published by NRW. The FRMP developed the objectives and high-level actions 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.

In this document we explain how flooding will be managed across our Local Authority area, consistent with the objectives, measures and related policies and legislation set out in the National Strategy.

1.3 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 provide different levels of detail on how flood risk will be managed. The meaning of each is summarised below in Figure 1:

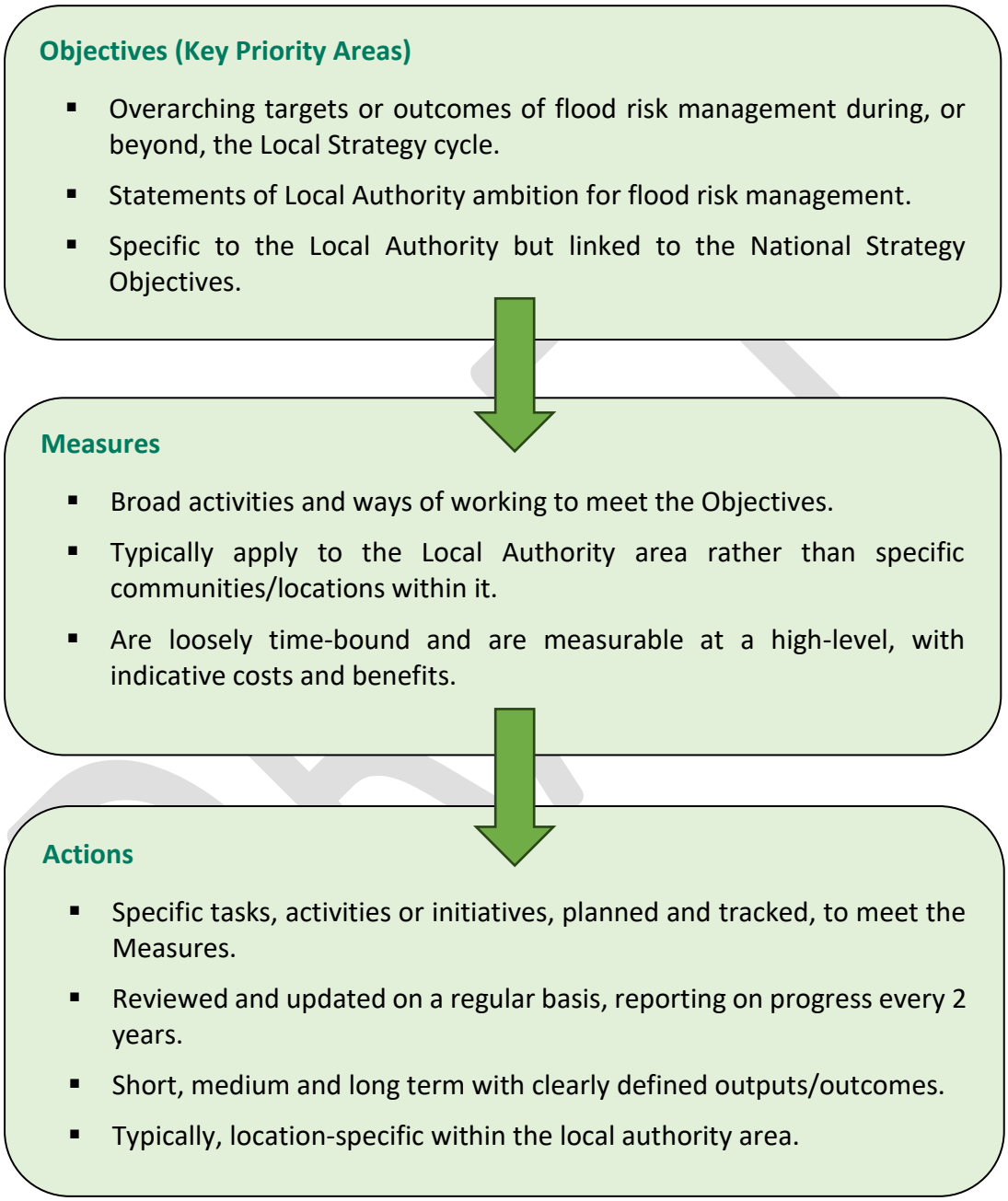


Figure 1 -Definitions of Objectives, Measures and Actions for delivering Anglesey's Local Strategy

2. How this strategy responds to climate change

2.1 Climate change in our area

Anglesey has topographic, hydrological, oceanographic, geological and linked climatic features that make it unique in Wales.

The county has a low mean height above sea level making it relatively unprotected from westerly frontal rainfalls and high windspeeds. It has agriculturally reclaimed tidal flats, a high coastline to inland area ratio and significant low density coastal urbanisation; these features coupled with high tidal ranges and the potential for tidal surges make any increase in climate change induced sea level rise, storminess, wave height or surges problematic. Although, the island's topography is low, the majority of the land is high enough to withstand even high range sea level change scenarios, albeit with serious effects on the coast and from increased inland fluvial flooding. Due the proximity of the coast and low-lying topography the island has never suffered from large snowmelt floods compared to Welsh counties with significant upland areas.

Anglesey's geology is very varied but generally very impermeable to infiltration; most of the island is covered in glacial till. This impermeability enhances the flooding potential from climatically induced total rainfalls, changing intensity of rainfalls and altered distribution of rainfalls.

The island being covered in glacial till over a range of impermeable rocks is susceptible to changes in rainfall patterns. The island's low gradients and glacial till, however, make it difficult for increased intense rainfalls to significantly increase erosion, but conversely the same variables increase the retention of water over large areas increasing the likelihood of flood damages.

Many flood storage and Natural Flood Management (NFM) techniques will become impacted by any change in the frequency of heavy rain, particularly if that frequency is close to the draw-down time of any flood storage. Currently, total rainfalls are projected to decrease in summer and increase in winter, but with more intense and variable rainfalls, including the more damaging convective events embedded in frontal systems.

Heatwaves of higher frequency and intensity are expected to increase, and evidence of their arrival has been accumulating over the past few decades. Although flooding is not directly related to heatwaves, their indirect effects can be significant to flood risk planning, including increased flash floods from convective events, negative changes in soil permeability, damage to flood retention structures made of clay rich fill and damage to ecological areas or NFM vegetation.

UKCP18[1] states that the average temperature over the decade 2009-2018 has been on average 0.3°C warmer than the 1981-2010 average and 0.9°C warmer than the 1961-1990 average. All the top ten warmest years for the UK, in the series from 1884, have occurred since 2002. Winters in the UK, over the decade 2009-2018, have been on average 5% wetter than 1981-2010 and 12% wetter than 1961-1990. Summers in the UK have also been wetter, by 11% and 13% respectively. Long term records do show similar rainfall levels to the period 2009-2018 in the earlier part of the historical record, so it is important to consider long term

[1] UK Climate Projections: Headline Findings (August 2022)

variations. Total rainfall from extremely wet days increased by around 17% in the decade 2008-2017, for the UK overall. Mean sea level around the UK has also risen by about 17 cm since the start of the 20th century.

The British Red Cross report 'Every Time it Rains: British Red Cross Research on Flooding in the UK (December 2022)[2]' explores experiences and perceptions of flooding, levels of resilience in vulnerable communities and investigates levels of social flood risk across the UK. The Social Flood Risk Index is a measure of the probability of flooding, the number of people who are likely to be affected and the vulnerability of the community (e.g. age, health, income). Anglesey shows a majority low social flood risk in relation to fluvial and coastal flooding but does show medium and high risk in places. Anglesey shows low to extreme social flood risk in relation to surface water flooding.

The Senedd was the first Parliament in the world to declare a climate emergency. 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.

Anglesey has a population of approximately 69,700 with approximately 30,600 households. Agriculture is the main land use with most of the larger towns being found along the coast, with the exception of Llangefni which is inland. The Anglesey and Gwynedd Joint Local Development Plan (2011-2026) identifies the need to adapt to the effects of climate change that are forecasted for the years to come, e.g. more floods, increase in sea levels and coastal erosion. The natural and built environment should be resilient to climate change and able to adapt to it.

IoACC declared a climate emergency in September 2020 making a commitment to become a carbon neutral council by 2030. Consequently, the council have agreed a 'Towards Net Zero Plan 2022 to 2025' which outlines its commitment to the climate emergency and how it intends to transform to become a net zero organisation. The plan was formally adopted by the council in March 2022.

This Local Strategy will help to manage some of the effects of climate change in our area. The objectives, measures and actions it identifies will help us to reduce the risk of flooding where we can, as well as adapt our communities and infrastructure to become more resilient to flooding when it occurs.

2.2 How our strategy addresses these risks

The Strategy has been developed with a long-term strategic view, recognising the challenges climate change presents in relation to flood risk.

There are a number of national, regional and local plans and strategies which have been considered when developing the Objectives, Measures and Actions to manage flood risk and address climate change within Anglesey. Table 1 identifies how these address climate change and how they have been considered in the development of this Local Strategy.

[2] Every Time it Rains: British Red Cross Research on Flooding in the UK (December 2022)

Table 1 – National, Regional and Local Strategies and Plans relating to Climate Change

Strategies and Plans	How this addresses the risk of climate change
Anglesey 'Council Plan 2023-2028'	This Plan contains several Strategic Objectives including Climate Change 'Responding to the crisis, tackling change and working towards being a net zero organisation by 2030'.
Anglesey and Gwynedd 'Joint Local Development Plan 2011 – 2026'	Provides the strategy and aims for development and land use in relation to planning and the development of the whole area and individual communities. It identifies the need to mitigate and adapt to the effects of climate change.
Welsh Government 'National Strategy for Flood and Coastal Erosion Risk Management in Wales' (October 2020)	Places emphasis on consideration of the challenges of climate change and is considered within four of the five Objectives.
Welsh Government 'Well-being of Future Generations Act (Wales) 2015'	Identifies the challenges of climate change which Wales faces.
Anglesey and Gwynedd 'Well-being Plan 2023-28'	Public Services Board Plan to assess the well-being of the area and create a well-being plan, relating to the national Well-being of Future Generations Act (Wales) 2015. One of the priorities identified is 'Climate Change – support communities to reach net zero targets'.
Anglesey 'Towards Net Zero Plan 2022 – 2025'	Outlines the actions the Council will take as it transitions towards Net Zero.
NRW 'Wales Marine Area Statement'	Identifies the risks posed by climate change including rising sea levels and increased storm events and the need to adapt.
NRW 'North West Wales Area Statement'	Discusses the climate emergency including consideration of how a resilient community can support the most susceptible communities and how resilience can be increased.
Welsh Government 'Prosperity for All: A Climate Conscious Wales' (2019)	Demonstrates an understanding of climate change and takes steps to prepare for and adapt to these changes.
'West of Wales Shoreline Management Plan 2' (June 2012)	Provides a large-scale assessment of the risks associated with coastal evolution and presents a policy framework to address these risks in a sustainable manner. Supports the DEFRA Strategy 'Making Space for Water' (DEFRA 2005) aim 'to reduce the threat of flooding and coastal erosion to people and their property'.

Strategies and Plans	How this addresses the risk of climate change
Welsh Government 'Technical Advice Note 15: Development and Flood Risk'	Provides technical guidance in relation to development and flooding, including consideration of climate change.
NRW 'Flood Map for Planning'	Provides information on flood risk to inform local planning. The maps include an allowance for climate change.
Welsh Government Guidance on Climate Change Allowances and Flood Consequence Assessments	Sets out the climate change allowances to be used in flood consequence assessments submitted in support of relevant planning applications and to inform development plan allocations.

3. Coordination

3.1 How this strategy aligns with our other strategic plans

In addition to the Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales, there are a number of other national, regional and local plans which align with this Strategy.

Isle of Anglesey County Council Plan 2023-2028

This plan is IoACC' s principal strategy document and will influence and inform strategies and plans for the provision of services from 2023 to 2028. The Council's vision is to create an Anglesey that is healthy and prosperous where people can thrive. One of the objectives of the plan is:

- Climate Change – responding to the crisis, tackling change and working towards becoming a net zero organisation by 2030.

IoACC declared a Climate Emergency in 2020 and is working towards becoming a Net Zero County by 2030. The Council's aims include to:

- Continue our journey to reduce carbon emissions from the Council's land and assets and change the way we operate and deliver services.
- Continue to manage our countryside sites effectively to support the regeneration of nature and decarbonisation.
- Consider climate change and biodiversity when making decisions across the Council.
- Develop and deliver schemes for tree planting and locking up carbon.
- Continue to minimise flood risk in areas of concern.

The Council's commitments include:

- Working towards achieving net zero carbon status.
- Managing our land efficiently to support the regeneration of nature, biodiversity and lock up carbon where possible.
- Responding to global warming and climate change and supporting society to adapt the way it works, lives and uses land.
- Supporting sustainable and green opportunities in our communities.

Anglesey and Gwynedd Joint Local Development Plan (LDP) 2011 – 2026

The Planning and Compulsory Purchase Act 2004 makes it a requirement for local planning authorities to prepare a Local Development Plan (LDP) for their areas. The Plan sets out the strategy and aims for development and land use in the area covered by the Anglesey and Gwynedd (except Eryri – also known as Snowdonia) Planning Authorities. It provides guidance regarding the location of new houses, employment opportunities, leisure and community facilities and where these will be provided in the area. The Plan will be used to determine

which developments will receive permission in the future.

The vision for the Plan area:

By 2026, Anglesey and Gwynedd will be recognised for their vibrant and lively communities that celebrate their unique culture, heritage and environment and for being places where people choose to live, work and visit.

The themes of the Plan's Strategic Objectives:

1. Safe, healthy, distinctive and vibrant communities.
2. Sustainable living.
3. Economy and regeneration.
4. Supply and quality of housing.
5. Natural and built environment.

All these themes link to flood risk management and this Strategy and are considered within this Strategy's Objectives, Measures and Actions.

Isle of Anglesey County Council 'Towards Net Zero Plan' March 2022 – March 2025

In September 2020, IoACC declared a climate emergency, and committed to becoming a net zero carbon organisation over the next decade. The aim is to 'Modernise and adapt to become a Net Zero Council by 2030'. The objectives to achieve this include 'Enhance biodiversity and tree cover on the Council's land and assets. The Council will need to 'Utilise unused land to maximise biodiversity, increase tree cover, and capture carbon with the view to become carbon positive'. The Plan will support the Council's Biodiversity Plan to ensure all possible actions are taken to enhance biodiversity and the natural environment across Anglesey. It will also mitigate the effects of climate change over the long term.

Additionally, the Plan will seek to extend tree coverage across Anglesey to enhance the carbon sink potential. It will be important to ensure sustainable delivery of tree planting and woodlands schemes to ensure they're suitable for the local habitat.

Furthermore, the Council will support communities across the Island to respond the climate emergency (e.g. via the place shaping agenda and green infrastructure).

Where necessary, the Council will work to deliver targeted projects to mitigate the effects of climate change by improving flood defence measures across Anglesey.

IoACC will:

- Enhance variety of biodiversity on Council land.
- Develop and deliver a plan to enhance and increase tree cover on Council land.
- Adopt and implement a new Area of Outstanding Natural Beauty management plan which is aligned within the Council's net zero aim and objectives.
- Adopt and implement a new Destination Management Plan that aligns the behaviours and infrastructure outlined in the Council's net zero aim and objectives.
- Support the development of new green public infrastructure in town centres and

popular coastal locations.

- Encourage our communities to respond to the climate emergency through the Place Shaping agenda.
- Develop and implement projects to improve flood defence measures.

The delivery of the land use and biodiversity programme will lead to a reduction in our overall carbon emissions through carbon positive projects (e.g. enhancing biodiversity and increasing tree cover).

Anglesey and Gwynedd Well-being Plan 2023 - 2028

The aim of the Well-being of Future Generations Act (2015) is to improve the economic, social, environmental and cultural well-being of Wales.

The seven well-being goals are shown below in Figure 2.

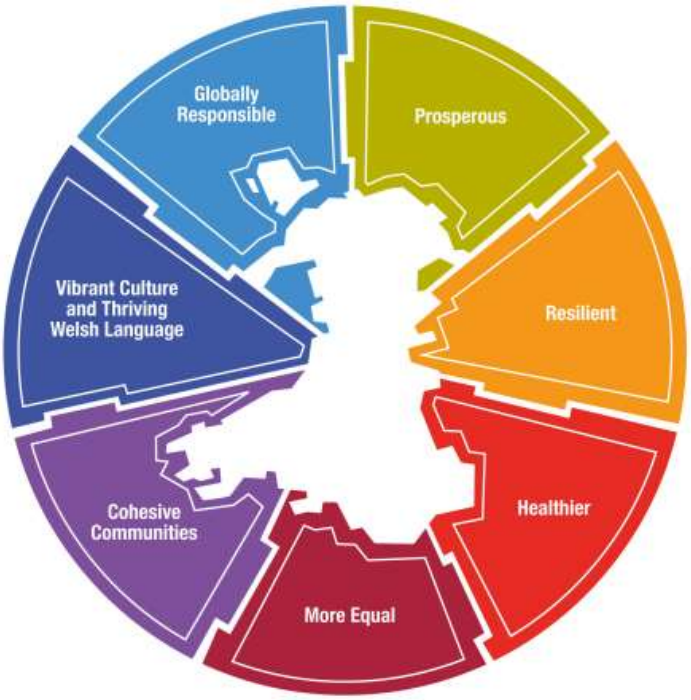


Figure 2 – The Seven Well-Being Goals.

These seven well-being goals have been designed to support public bodies to meet the existing needs of their communities and ensure that the decisions of today do not harm future generations. The Act has established a Public Services Board for every local authority area in Wales to ensure that public bodies work together to create a better future for the people of Wales. As part of this, the Public Services Boards must assess the well-being of their areas and create a Well-being Plan with the aim of improving communities.

The Objectives of the Anglesey and Gwynedd Well-being Plan are:

- We will work together to mitigate the effect of poverty on the well-being of our

communities.

- We will work together to improve the well-being and achievement of our children and
- young people to realise their full potential.
- We will work together to support our services and communities to move towards Zero Net Carbon.

These objectives both link to flood risk management and are considered in this Strategy's Objectives, Measures and Actions.

Western Wales Flood Risk Management Plan (FRMP) (2015)

The Flood Risk Regulations (2009) (revoked under the Retained EU Law Act) require Preliminary Flood Risk Assessments, Flood Hazard and Risk Maps, and Flood Risk Management Plans to be produced and reviewed every 6 years. This FRMP was produced by Natural Resources Wales (NRW) in 2015 and covers the Western Wales area. It summarises the risk of flooding from rivers, the sea and reservoirs and sets out and prioritises what needs to be done to manage the risk, now and in the future.

The Objectives of this Plan:

1. Reduce the risk of harm to life from flooding to people and communities from main rivers, reservoirs and the sea.
2. Increase resilience of services, assets and infrastructure to current and future risk of flooding.
3. Improve understanding of current and future flood risk so that decisions are based upon the best available information.
4. Improve community awareness and resilience to current and future flood risk.
5. Work with others to provide an effective and sustained response to flood events.
6. Allocate funding and resources for all sources of flooding on a risk basis.
7. Incorporate natural resource management into the delivery of flood risk management.
8. Seek opportunities to deliver River Basin Management Plan (RBMP) measures through Flood Risk Management.

All these Objectives except 8 are covered directly in the Objectives of this Strategy and are covered in more detail within the Measures and Actions. Objective 8 relates to the River Basin Management Plan which is discussed below and is covered particularly in Objectives 4 and 6 of this Strategy.

Western Wales River Basin Management Plan (RBMP) 2021-2027

Under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 a management plan is required for each River Basin District (RBD). The purpose of this

management plan is to protect and improve the water environment for the wider benefits to people and wildlife. The approach and actions set out in this plan will have an effect on all types of water across the catchments that make up the management plan, this includes rivers, lakes, canals, groundwater, estuaries and coastal waters. The plan aims to be integrated at the catchment scale ensuring a connection across the wider environment for people and wildlife, from catchment to coast.

The Plan includes the creation of a baseline classification of the quality of surface waters and groundwaters within the region. The surface water bodies are classified according to ecological status and chemical status and the groundwater bodies are given a combined ecological and chemical status.

The Objectives of the Plan:

- Prevent deterioration in status.
- Achieve the objectives for Protected Areas – this involves working towards conservation objectives.
- Aim to achieve good overall status/potential for surface waters and groundwaters.

Anglesey has been identified as an Opportunity Catchment, one of the ten areas in Wales which represent the best suite of opportunities to deliver sustainable management for water and contribute to the well-being goals.

Many of the areas covered in the RBMP relate to this Strategy. Objectives 4 and 6 of this Strategy in particular, relate to the aims of the RBMP.

West of Wales Shoreline Management Plan (SMP)

The Shoreline Management Plan (SMP) provides a large-scale assessment of the risks associated with coastal evolution and presents a policy framework to address these risks to people and the developed, historic and natural environment in a sustainable manner. The SMP is a non-statutory policy document for coastal defence management planning.

The SMP supports the Government's aims, as set out in DEFRA's strategy "Making Space for Water" (DEFRA 2005):

- To reduce the threat of flooding and coastal erosion to people and their property.
- To deliver the greatest environmental, social and economic benefit, consistent with the Government's sustainable development principles.

In the development of the SMP, the aims of the Welsh Assembly Government's New Approaches Programme (2007) to reduce risks are also taken into consideration:

- Encourage the provision of adequate and cost-effective flood warning systems;
- Encourage the provision of adequate, technically, environmentally and economically sound and sustainable flood and coastal defence measures;
- Discourage inappropriate development in areas at risk from flooding or coastal erosion;
- Amend the guidance given in the Flood and Coastal Defence Project Appraisal

Guidance Volume 3 Economic Appraisal to reflect the fact that justification for the public investment should be based on consideration of all option benefits, both quantifiable and unquantifiable, with particular regard to the impacts on people, which is considered in the appraisal of options and selection process.

The SMP management policies to deliver the plan:

- **No Active Intervention** where there is no investment in coastal defence or operations.
- **Hold the Line** by maintaining or changing the standard of protection. This policy should cover those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters and so on) to improve or maintain the standard of protection provided by the existing defence line.
- **Managed Realignment** by allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences).
- **Advance the Line** by building new defences on the seaward side of the original defences. Using this policy should be limited to those policy units where significant land reclamation is considered.

All the Objectives within this Strategy apply to coastal areas and most of them relate to aspects of the SMP.

Gwynedd, Anglesey and Eryri National Park Development Plan Strategic Flood Consequence Assessment (SFCA) (November 2022)

The SFCA was updated to review the impact of the new Welsh Government 'Flood Map for Planning' on the Local Development Plan of the three authorities. The 'Flood Map for Planning' now considers the impact of climate change on flood risk.

The SFCA considers the implications of flood risk on all designations (Protected Employment Sites, Housing Designations, Employment Sites, Reserve Employment Sites and Enterprise Park) within the Local Development Plans where a flood zone abuts the site. The report shares the designation at those sites where there is a peripheral risk, sites which are water compatible, and sites where there is a more substantial risk and therefore there is need for a further review.

Sites considered within Anglesey:

- Casita, Beaumaris.
- Waterfront, Benllech
- Land near Cae Rheinws, Amlwch
- Shell Site, Rhosgoch / Amlwch
- Holyhead Port, Holyhead
- Bryn Cefni, Llangefni

- Former Shell Site, Amlwch
- Llwyn Onn Industrial Park, Amlwch
- Anglesey Aluminium Site, Holyhead
- Waterfront, Holyhead
- Madyn Farm, Amlwch

3.2 Coordination with others

IoACC is committed to working in partnership with other Risk Management Authorities (RMAs), stakeholders and local communities to achieve the Objectives, Measures and Actions within this Local Strategy. IoACC is considering catchment-based approaches and NFM where applicable and is committed to delivering wider social, economic and environmental benefits as well as a reduction in flood risk.

This Strategy has been developed in coordination with the strategic planning processes of other RMAs. In addition to the Plans and Strategies discussed above, the Dŵr Cymru Welsh Water (DCWW) Drainage and Wastewater Management Plan (DWMP) 2025 – 2050 is also of relevance to this Strategy.

This plan provides a basis for planning of drainage and wastewater services over the next 25 years. The Plan assesses the level of risk we face from climate change, urban development, and a changing population. One of the themes identified within the Plan is 'Water quantity - Reducing the risk of flooding to communities'. The DWMP aims to enable DCWW to work collaboratively with local authorities to tackle current and future challenges.

IoACC recognises the importance of public consultation in the production of this Strategy. The outcomes of the public consultation activities are included in Appendix D.

4. Roles and responsibilities for managing flood risk in our area

4.1 Sources of flooding and key points of contact

The figure below has been taken from the National Strategy. It summarises the different types of flooding and the key points of contact in each case.

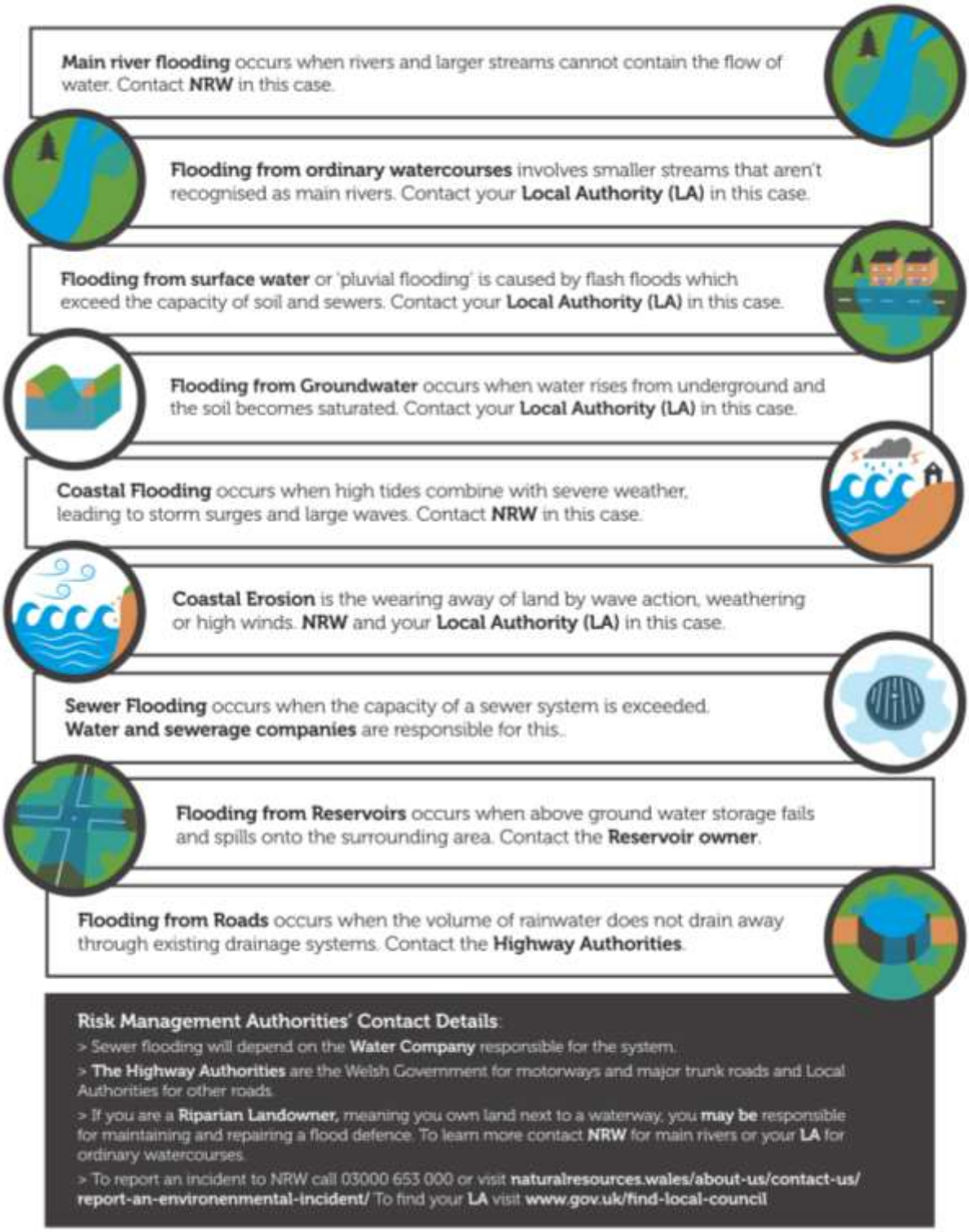


Figure 3 – NRW Types of Flooding and Points of Contact.

NRW information on Main Rivers and Ordinary Watercourses

Natural Resources Wales: Main Rivers and Ordinary Watercourses

Main rivers are usually larger streams and rivers but also include some smaller watercourses. In Wales, main rivers are legally designated by Natural Resources Wales.

Every other open watercourse in Wales is known as an 'ordinary watercourse'. Local authorities (as the lead local flood authorities) or Natural Resources Wales (as the internal drainage board) carry out maintenance, improvement or construction work on ordinary watercourses in Wales to manage land drainage.

4.2 Risk Management Authorities

Risk Management Authorities (RMA) across Wales include NRW, the 22 Local Authorities, water companies, and the Welsh Government. Each RMA 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. Further information has been provided in Appendix C.

Isle of Anglesey County Council (IoACC) as a lead local flood authority is responsible for taking the lead in managing flood risk from all local sources, including surface water, groundwater and ordinary watercourses.

The role of LLFA at IoACC is led by 'Highways, Waste and Property Services'.

Isle of Anglesey County Council (IoACC) as SuDS Approval Body (SAB) is responsible for the approval of SuDS. With the exception of single curtilage sites, Registered Social Landlord (RSL) and Local Authority Housing, the SAB has a duty to adopt the installed SuDS features.

Isle of Anglesey County Council (IoACC) as a Highways Authority is responsible for managing flood risk on roads and highways within the area. Local Authorities in Wales act as highway authorities in respect of local roads.

Isle of Anglesey County Council (IoACC) as a Planning Authority produces and monitors the Local Development Plan (LDP) and processes and determines planning applications, which includes the consideration of flood risk assessments. The Planning Authority also works alongside the SuDS Approval Body (SAB) to assess planning applications and complementary drainage applications.

Isle of Anglesey County Council (IoACC) also has roles in Emergency Planning and Flood Response.

Natural Resources Wales (NRW) is responsible for managing flood risk from main rivers and the sea, and also has a strategic overview role over all flood and coastal erosion risk management and for regulating the safety of reservoirs. NRW also has a key role in providing flood warnings to the public. NRW as manager of Malltraeth Marsh Drainage District is responsible for managing water levels and reducing flood risk through the management and maintenance of drainage channels, ordinary watercourses, pumping stations and control structures.

Dŵr Cymru Welsh Water (DCWW) is the regional water and sewage treatment company serving the Anglesey area. DCWW is responsible for flood risk from sewers and burst pipes.

UK Highways A55 Ltd is responsible for maintenance and operation of the A55 on Anglesey on behalf of the Welsh Government.

4.2.1 RMA Collaboration

All the risk management authorities identified above have the following new responsibilities under the Act:

- A duty to co-operate with other risk management authorities within the function of their flood and coastal erosion risk management role, which includes sharing flood data and information; and
- Authority to take on flood and coastal erosion functions from another risk management authority when agreed by both sides.

Co-operation with other risk management authorities includes the following:

- Discussing with other risk management authorities before designating structures;
- Report local flooding incidents to the IoACC Flood Investigation Officer on a monthly basis;
- Report flood assets, as defined by agreed criteria, as and when they are made

known;

- Assist with Flood Investigation Reports when required;
- Provide local knowledge on SuDS regarding applications in their area;
- Ensure that members of the public are guided to the appropriate authority or organisation; and
- Share expertise, data, information and local knowledge and work jointly to understand and reduce flood risk across Anglesey.

Each risk management authority also has specific responsibilities under the FWMA which are described in the next section.

4.3 Roles of Other Stakeholders

Whilst not designated flood risk management authorities, stakeholders such as riparian owners and infrastructure providers have responsibilities to maintain their assets for the purpose of managing flood risk.

4.3.1 Responsibilities of Anglesey's Citizens (Businesses, Landowners and Property Owners)

A guide to your rights and responsibilities of riverside ownership in Wales (naturalresources.wales)

It is the responsibility of property owners and businesses to protect their property from flooding. While in some circumstances organisations or property owners may be liable due to neglect of their own responsibilities, there will be many occasions when flooding occurs despite all parties meeting their responsibilities. Consequently, it is important that householders, whose homes are at risk of flooding, take steps to ensure that their house is protected. There are several measures which can be taken to make your property more resistant (stop water entering) and resilient (better prepared to recover) to flooding.

These include:

- Check whether your household is at risk from flooding from the river, coast or local flood sources.

  NRW Check your Flood Risk by Postcode

  NRW Flood Warnings and Alerts

- Ensure that preparations have been made for the event of a flood. These include registering for NRW Flood Warnings, keeping a 'grab bag' of essential items ready and having a plan to turn off electricity, gas and water supplies;

  NRW Sign up to Receive Flood Warnings

- Take measures to ensure that their house is protected from flooding, either through permanent measures such as sealants in the wall or temporary measures such as flood sacks or flood guards. See the National Flood Forum's independent Blue Pages directory: http://www.bluepages.org.uk/;

- The combined effect of many people paving over their front gardens can increase the amount of surface runoff which adds to the risk of flooding. See the 'Guidance on the permeable surfacing of front gardens' leaflet.
- Take measures to make sure the house is resilient to flooding so that if it does occur it does not cause too much damage;
- Where possible, take out flood insurance, and consider Flood Re. Flood Re is a joint industry and government initiative and is a flood re-insurance scheme which provides reinsurance to a) promote affordability and availability of insurance for UK households at high flood risk and b) to manage the transition to risk-reflective pricing of flood insurance for household premises; https://www.floodre.co.uk/
- If your property is served by separate surface water and foul sewers, you have a responsibility to fix any pipes which may be wrongly connected. For example, dirty water from sinks, baths, showers, appliances and the toilet should go to the foul sewer to be treated, otherwise watercourses can be polluted. Gutters and gulleys collecting rainwater should connect to the surface water sewer – if these are wrongly connected to the foul sewer then flooding from the foul sewer can result. See the 'DCWW Misconnected Sewers' webpage.
- If you own land adjoining a watercourse then you are a riparian owner and you have a responsibility to pass on flow without obstruction or pollution, including maintaining the banks of the channel and any vegetation so they remain clear of debris. See NRW's 'Guide to Rights and Responsibilities of Riverside Ownership in Wales': A guide to your rights and responsibilities of riverside ownership in Wales (naturalresources.wales)
- Report a flood incident at www.Anglesey.gov.uk to help build evidence for action to be taken.

NRW provides information on what to do to prepare a household for emergencies. This includes how to make a flood plan which will help you decide what practical actions to take before and after a flood.

Natural Resources Wales / What to do in a flood

The National Flood Forum is a national charity dedicated to supporting and representing communities and individuals at risk of flooding. As detailed in the following link: http://nationalfloodforum.org.uk

The National Flood Forum has several roles:

- Help people to prepare for flooding in order to prevent it or mitigate its impacts;
- Help people to recover their lives once they have been flooded; and
- Campaign on behalf of flood risk communities and working with government and agencies to ensure that they develop a community perspective.

4.3.2 Utility and Infrastructure Providers

Within Anglesey most of the defence assets are the responsibility of IoACC, Stena Sea Ports,

Network Rail or private landowners. Utility and infrastructure providers such as Network Rail, energy companies and telecommunication companies have a crucial role to play in flood risk management as their assets can be an important consideration in planning for flooding.

Moreover, they may have assets such as culverts, information about which needs to be shared with flood risk management authorities. They already maintain plans for future development and maintenance of the services they provide, and it is important that they factor in flood risk management issues into this planning process. This will ensure that their assets and systems are resilient to flood and coastal risks and that the required level of service can be maintained in the event of an incident.

4.3.3 Reservoir Undertaker

Citizens who own or operate a reservoir have ultimate responsibility for the safety and the maintenance as a reservoir undertaker. Under the FWMA, all undertakers with reservoirs over 10,000 m^3 must register their reservoirs with the NRW and all undertakers must report any flood incidents. The reservoir owner is responsible for producing on-site emergency plans which detail how reservoir owners will respond to a potential or real reservoir failure. All undertakers must prepare a reservoir flood plan. It is good practice for all reservoirs to have on-site plans and all reservoir owners are recommended to prepare one.

4.3.4 Additional Stakeholders

- Emergency Services
- National Flood Forum
- National Surface Water Management and SuDS Group (Wales)
- North Wales Regional Flood Risk Group
- National Farmers Union
- North Wales Local Resilience Forum
- Housing Associations
- Association of British Insurers
- CADW
- National Trust
- RSPB
- North Wales Wildlife Trust
- Flood Partnership Groups
- Local community groups

4.4 How we manage flooding

The Flood and Water Management Act (FWMA) 2010 identified Isle of Anglesey County Council as the Lead Local Flood Authority (LLFA) for the district. IoACC are responsible for

taking the lead in managing flood risk from local sources. This includes surface water, groundwater and ordinary watercourses and also where there is an interaction between these sources and main rivers or the sea. IoACC also has other related roles in emergency planning, regulatory services and road drainage; detailed in the following sections.

Following implementation of the FWMA, the management team for IoACC designated 'Highways, Waste and Property Services' to take the lead in ensuring the Council's compliance with legislation and to ensure that all relevant departments and external agencies assist to fulfil the requirements of this Act. The department already carried out similar duties and had formed the necessary relationships with other departments and external bodies to undertake this role. The Head of Service for 'Highways, Waste and Property Services' has the delegated authority for the operational implementation of the Strategy.

The diagram below (Figure 4) illustrates the departments within IoACC that have a part to play in reducing flood risk and implementing the Act as a LLFA.

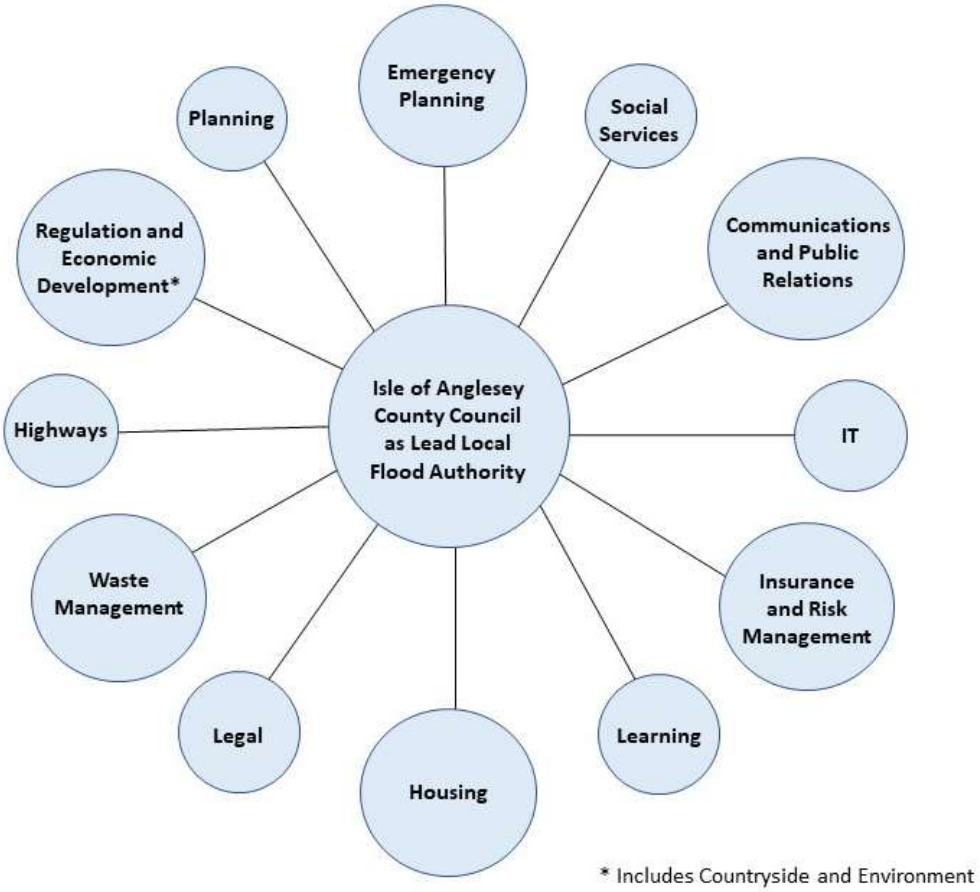


Figure 4 – Departments within IoACC which are involved in the role of LLFA

4.4.1 Emergency Planning

As a Council, IoACC work closely with our North Wales Councils Regional Emergency Planning Service (NWC-REPS) to safeguard our communities in the event of an Emergency situation on Anglesey. As part of our Council wide response, each department produces a Service Continuity Plan, which are stored on a shared Teams Channel, along with other specific documentation such as Emergency contact numbers, Rest Centre Plan etc.

4.4.2 Social Services

Anglesey Social Services (comprising of both Children and Families and Adults Services) work closely with Council's Flooding team to prepare and plan for possible flooding eventualities. The work consists of mapping high risk flood areas and preparing postcode liked reports from our Social Care Data System of vulnerable individuals who live in the identified area. This is shared with multi-disciplinary partners in the event of an emergency, such as our Highways department, North Wales police etc. to facilitate welfare checks and support evacuation if required.

Social Services also lead on opening Rest Centres (initiated by North Wales Resilience team and North Wales Police) in the event of an emergency. Our rest centres have been considered with potential flooding areas in mind.

4.4.3 Communications and Public Relations

IoACC has an obligation under the Civil Contingencies Act 2004 to warn and inform the public during an emergency/ major incident e.g. major flooding event.

Its Communications Unit is on hand to liaise with and support the Highways Service in the event of a major flooding incident. In the event of an emergency, the team would:

- utilise the Council's social media channels (namely Facebook, Instagram and X) to share messaging and advice to areas affected
- seek support from partner organisations e.g. North Wales Police to amplify urgent messages via social media
- inform local press, including community radio, MônFM, to ensure messages are distributed across various media channels
- ensure Council website is updated to provide relevant information
- provide information to town and community councils in affected areas
- seek further support from members of the North Wales Warning & Informing Group, should incident require prolonged input

4.4.4 Information Technology (IT)

The IT department is responsible for updating and monitoring all services within the Authority. This includes ensuring customer service data systems are operational at all times.

The department is also responsible for installing and implementing any new systems considering by IoACC to improve FRM processes and log appropriate asset data.

4.4.5 Insurance and Risk Management

Anglesey's Insurance department work closely with the flooding team when processing claims made against the council in relation to flood damage.

The Council's insurance agency provides several FRM functions including an online flood guide which provides useful, straightforward guidance for homeowners to prepare for a flood, act in the event and begin recovery. They also publish regular 'PERC' (Post Event Review Capability) reports which reflect on learnings from flood events. As part of their policy, flood dashboards are also provided which displays predicted time and depth of flooding up to 48 hours before it happens across the district.

4.4.6 Learning

The Learning Service provide the comprehensive education service for Anglesey. The service can assist in FCERM by engagement with learners at many levels to help raise awareness of flood risk.

Support is also provided when developing Flood Awareness Campaigns and support is provided to ensure information is appropriate formatted in a clear and simple manner.

4.4.7 Housing

IoACC Housing Service is responsible for evacuating tenants from social housing where necessary, to ensure their safety during a flood event. The department also invests in flood protection measures for council-owned properties within high flood risk areas, including installing flood guards on doors.

Additionally, there are plans in progress to provide extra care during major flood events, which will require Housing Services to invest and play a key role in coordinating this effort to protect and support affected residents.

4.4.8 Legal

The Legal Section provides advice on how the Flood and Water Management Act 2010 ("the 2010 Act") applies in a whole range of situations that may arise when the Council exercises its legal duties, responsibilities, and powers as Lead Local Flood Authority for the area.

The Legal Section also advises on how the 2010 Act has amended other Acts such as the Land Drainage Act 1991 and any subsequent changes or additional powers, responsibilities, or duties the Council may hold as a result.

4.4.9 Waste Management

The Waste Management department is tasked with ensuring waste collection and maintaining efficient disposal systems. Clearing litter and debris from streets can help prevent blockages and subsequent flooding, thereby serving a FRM function.

Additionally, during major flood events (classified as emergencies only), the waste department will assist in the cleanup of affected areas by coordinating with other department to allocate resources and remove debris and waste where necessary.

4.4.10 Highways

IoACC is the Highway Authority for all adopted roads and footways within Anglesey (with the exception of some).

Section 41 of the Highways Act 1980 states that the authority responsible for a highway maintainable at public expense has a duty to maintain the highway. This duty includes ensuring safe passage along the highway, especially during snow or icy conditions.

The Authority maintains and repairs the roads, which includes the surface water drains that run beneath the road surface, as well as the roads and footpaths themselves.

Highway maintainable surface water systems are crucial for the effective management of surface water on roads, ensuring safety and longevity of the road infrastructure.

Highway drainage elements fall into five main categories:

- Gullies, grips and ditches, which may be obstructed by the growth of vegetation or damaged by traffic
- Culverts under roads which may be affected by blockage, subsidence or structural damage
- Other piped drainage which may be affected by blockage or subsidence
- Sustainable urban drainage systems which may require special maintenance attention
- Surface boxes and ironwork which may be affected by subsidence or obstructed access

Risk Based Cleansing Programme and Schedule

There are no statutory indicators identifying the condition of the highway drainage systems and therefore the Authority has developed a local standard based on fit for purpose to provide a level of service required assessed by the level of risk of the system being compromised by failure. The assessment is based on the different speed of traffic on the road and areas most susceptible to flooding. The drainage systems require a cleansing programme to ensure that, so far as reasonably practicable, free of obstruction and have an appropriate inspection and cleansing regime to deliver this.

Gully Emptying

Roadside gullies are required so that water flowing along the side of the road channels is collected and drained away via the drainage systems into nearby ditches and watercourses. They have a sump contained in a chamber, beneath the grid cover. The sump should be deep enough to contain silt and to stop the silt running into the drainage system. The build-up of silt in the gully will eventually block the gully and regular cleansing of the gullies is essential to reduce the risk of blockages occurring in the systems. This operation comprises sucking out the contents of the gully into a tanker. Gullies are over filled when emptied to ensure that they are clear and when not, the unit is recorded for jetting.

The frequency of emptying will depend upon location, extent of tree cover, level of rainfall, the extent of kerbing and frequency of sweeping. By default, all gullies will be cleaned at least once annually, and arrangements are made for non-functioning gullies to be recorded for more frequent or detailed attention. Schedules of gullies requiring increased frequency of emptying is built up by records from the cleansing schedule reports, experience and trouble

spots. Since gullies may be obstructed by the growth of vegetation or damage by traffic, especially in rural areas, the Authority plots each gully cleansed electronically by GPS so that the current inventory can be built upon and continually maintained.

There are approximately 16000 gullies on Anglesey and on most occasions a simple gully clean will result in the immediate removal of silt, but it does not always deal with the build-up of material down-stream. To avoid this, the Authority has increased the gully emptying schedule to twice annually so it is more likely that a system will remain free from build up for longer.

The A545, at Glyn Garth, is particularly susceptible to blockage due to leaf fall and therefore gullies are cleaned monthly during October to February.

Culverts and Manholes

General guidance suggests that culverts and manholes should be inspected every five years by default and cleaned when necessary and piped drainage systems should be checked and flushed if necessary, during regular service inspections, but by default at not more than 10-year intervals.

The frequency of cleansing of oil interceptors are by default every five years.

Ditches

General guidance suggests that roadside ditches should be maintained by the adjoining landowner, however the Authority, carry out the cleansing and clearing work. This is carried out on a six yearly cycle and increased and decreased through assessment by the Engineers through their Highway Safety Inspection. The Council do not own any land drainage ditches, unless they are adjacent or abut Council Land. Riparian Owner and have certain common law rights & responsibilities.

Flooding

Despite effective and regular maintenance operations, flooding of the highway occurs, relevant warning signs are placed in position as quickly as possible and road users are informed of the hazard through local media. The cause of flooding is determined and given prompt attention in order to restore the highway to a reasonable condition. If flooding is attributable to deficiencies in the infrastructure or the maintenance regime, then action to permanently relieve the problem is considered depending on priority.

4.4.11 Regulation and Economic Development

The Regulatory and Economic Development Service manage the Maritime section. There is crossover with the Maritime Service with regard to Coastal Issues and where Economic Development are working on capital programmes, early consultation with regard to Flood Risk and Sustainable Drainage.

4.4.12 Planning

The Planning Service is the designated Planning Authority for the island and manages the process of the development of land and buildings.

The functions of IoACC Planning Authority in relation to flood risk is to produce and monitor a Local Development Plan (LDP) and process and determine planning applications, which includes the consideration of flood risk assessments.

The LDP is supported by several Background Papers and Supplementary Planning Guidance

(SPG) documents. For all land allocations in the LDP, statutory bodies are consulted. The comments of NRW and the Council's 'Regulation and Economic Development' department (including Countryside and Environment) in relation to flood risk are considered in the assessment of development and whether sites are allocated or not.

The Planning Authority affects Flood Risk Management in the following key ways:

- Writing policy in the LDP regarding SuDS issues;
- Providing input into the 'Regulation and Economic Development' department plans such as Shoreline Management Plan;
- Identify links and potential land use allocations as part of the LDP considering flood risk;
- Assessing flood elevation works; and
- Responding to WG or NRW on consultations involving flooding issues as a service.

When considering flooding issues in the preparation of Local Plans, the Planning Authority needs to do the following:

- Produce a Strategic Flood Risk Assessment (SFRA). This should consider not just fluvial and coastal flooding but also local flood risk issues. Where Critical Drainage Areas have been identified these will need to be included;
- Develop a LDP that carefully considers flood and coastal erosion risks. This is a statutory planning document which can be used to control inappropriate development in the floodplain. Consequently, the LDP should support the SFRA, the Preliminary Flood Risk Assessment and Surface Water Management Plan (where applicable). This should allow the LDP to assess and record the flood risks for new developments and steer development to areas of lowest flood risk. Equally there is requirement to assess risks from coastal erosion and permanent tidal inundation and where appropriate designate coastal risk management zones where permanent development will not be permitted;
- When assessing development, Planning Authorities should consider the following aspects: (a) the risk of all forms of flooding in the area, flood protection measures and the impact of climate change; (b) the justification for the location of development in a flood risk area; (c) the consequences of flooding in terms of risk to life, damage to property, safe access and aggress, and disruption; (d) the form and layout of development, use of appropriate SuDS and water efficiency measures such as rainwater harvesting or use of local land drainage water where practicable;
- Consider the allocation of land for development in areas of lowest probability of flooding through embedding the sequential approach referred to in TAN 14 – Coastal Planning, and TAN 15 - Development and Flood Risk into the LDP;
- Safeguard land for critical infrastructure; and

Develop action plans, where necessary, to support sustainable spatial planning and ensure all plans are integrated and firmly linked to local strategies.

4.5 IoACC as a Lead Local Flood Authority (LLFA)

The FWMA identifies IoACC as the LLFA for the administrative Isle of Anglesey. This gives the

council a number of statutory duties in overseeing the management of local flood risk from surface water, groundwater and ordinary watercourses such as streams and ditches (including lakes and ponds). It also gives IoACC a number of permissive powers which allow them to do something, but do not compel them to and are defined in Table 2 below.

Table 2 – Statutory and Permissive Powers of IoACC

Statutory Powers	Permissive Powers
▪ Strategic leadership[3]; ▪ Comply with the National Strategy[4]; ▪ Co-operate with other authorities[5]; ▪ Recording and investigating flood incidents[6]; ▪ Keep a register of assets likely to affect flood risk[7]; and ▪ Contribute to sustainable development[8].	▪ Powers to designate structures and features that affect flood or coastal erosion risk; ▪ Powers to request information; ▪ The expansion of powers to undertake works to include broader risk management actions; and ▪ The ability to cause flooding or coastal erosion under certain conditions. ▪ Power to enter any land for the purposes of carrying out their function under the Land Drainage Act[9]

Several Local Authorities in Wales are also designated coastal erosion risk management authorities under the Coast Protection Act 1949, providing them with certain responsibilities in respect of coastal erosion and coastal protection. Formally referred to as Coastal Protection Authorities they may also be referred to as Coastal Local Authorities or Maritime Authorities and retain their current permissive powers in relation to coastal erosion risk management.

Some of these duties and powers which require more detail have been explained in the following section.

4.5.1 Strategic Leadership

IoACC is responsible for co-ordinating and overseeing Flood and Coastal Erosion Risk Management on a day-to-day basis on the Island. This involves developing this Strategy which will set out IoACC's approach to dealing with flooding identified under the Act. It also involves ensuring all flood risk authorities are aware of their responsibilities, monitor progress and

[3] Section 10(1) of the Flood and Water Management Act 2010
[4] Section 10(5) of the Flood and Water Management Act 2010
[5] Section 13 of the Flood and Water Management Act 2010
[6] Section 19 of the Flood and Water Management Act 2010
[7] Section 21 of the Flood and Water Management Act 2010
[8] Section 27 of the Flood and Water Management Act 2010
[9] Section 14 of the Flood and Water Management Act 2010

activity by all organisations involved and communicating with the public and between organisations.

4.5.2 Recording of Flood Incidents

To assemble an accurate picture of flood risk across Anglesey requires the collection of precise and useful records from actual flood incidents occurring across the county.

Section 19 of the Flood and Water Management Act 2010 places a duty on LLFAs to record all sources of significant flooding events. The national definition of significant is unavailable therefore the decision to record a flood is at the discretion of the LLFA.

IoACC collates records of flood incidents and land drainage investigations within a database. When combined with mapping of predicted flood risk in the county the historic records will help provide a picture of the highest flood risk areas in Anglesey.

The Council's aim is to obtain as much information on flooding incidents that occur across Anglesey and in order to do this, we encourage the public to use the Council's website to provide information that we may not be aware of.

In order to build consistent and accurate records of local flooding in Anglesey we need as much information as possible on historical and recent floods from individuals, businesses and stakeholders.

If you become aware of a flood in your area, please provide us with the following information via this link: Report Localised Flooding or report it using App Môn.

- Your name and contact details;
- Date of flood;
- Location of the flood (map references or precise address);
- The duration of flood;
- The depth of flood at its worst;
- Where did the water come from? e.g. overflowing river;
- What was the weather preceding the flood, rainfall if known;
- Did water enter a property? Which property?
- What damage did the flooding cause? e.g. blocked road for several hours;
- Was any action taken at the time to reduce the flood risk? e.g. flood gates;
- Any other relevant information; and
- Photographs and videos of the flood and damage preceding the flood.

4.5.3 Investigation of Flood Incidents

The aim of flood investigations is to bring all useful information together in one place, providing an understanding of flood experience, and outlining possible causes of flooding and potential long-term solutions and mitigation measures to protect people and their homes from flooding. Further recommendations will also be made to highlight potential flood risk management actions. Reports will provide a clear and thorough understanding of flood events, but our duty to investigate does not guarantee that problems will be resolved and cannot enforce other Risk Management Authorities into action.

Flood Investigation Thresholds

An LLFA has a duty to record all sources of significant flooding events. The national definition of significant is unavailable therefore the decision to record a flood is at the discretion of the LLFA.

In Anglesey, Flood Investigation Reports (FIRs) will be prepared if the flood extent exceeds 5no. of internally flooded properties. For the purposes of this threshold, internal flooding includes attached garages.

Where 4 or less properties have flooded internally, the incident will be recorded using GIS mapping and accompanied by a summary note. The LLFA may choose to carry out FIRs for fewer properties at their discretion.

The LLFA may also choose to carry out a flood investigation for incidents where no internal flooding has occurred. This is subject to known local flood risk or potential flooding implications to critical infrastructure such as hospitals.

A flood investigation will involve consultation with the relevant risk management authorities, landowners and private organisations involved, all of whom will be expected to cooperate and provide comments.

There are 3 stages of flood investigations for flooding incidents and land drainage issues in Anglesey:

Stage 1: Carry out an initial assessment; including a risk evaluation analysis to determine whether a site inspection is deemed necessary or progression onto Stage 2;

Stage 2: Carry out a detailed investigation (Flood Investigation Report) to identify the source of flooding, flood extent and number of internally flooded properties. FIRs then help to determine if measures can be carried out to help manage the risk or prevent the flooding incident occurring in the future. The report will be published, and a copy sent to all relevant parties involved;

Stage 3: Where appropriate, apply for funding to assess, design and/or consider installation / modification of flood alleviation measures.

Stage 1 – Initial Assessment

Once an incident of flooding or a drainage issue has been reported and recorded, if it is unclear which authority holds responsibility for managing the incident or it has been identified that IoACC is the responsible authority; a site inspection may be undertaken to

identify the cause of the problem. However, if it is clear that another authority is responsible, or a report has already been submitted from the responsible authority; a site inspection will not be necessary.

If a site inspection is deemed necessary and undertaken, it should ascertain which other authority has an involvement and also outline their responsibility with regards to the flooding incident. IoACC will record every flood incident that occurs in the county on the Authority's Infrastructure Management software, and a simple Report which will include various fields for information and flood officer notes will be completed when a site inspection is undertaken. The flood officer notes are for documentation purposes and will have been noted by the flood officer during a site visit. The site Inspection Report will also highlight any other follow up action required such as contacting other relevant parties or landowners which have an involvement or responsibility in the flooding incident.

All reported internal flooding incidents, either new or which have been previously recorded on our historical database will require a Stage 2 Detailed Site Investigation.

Stage 2 - Detailed Investigation

Stage 2 investigations, if required, dependent on the flood extent and number of properties affected, will result in a Flood Investigation Report (FIR) being generated, which aims to bring all the information together in one document, providing an understanding and outline of the possible cause of the flooding incident. The report will also identify which other authority should have an involvement, including responsibility for the flooding incident and identifying possible prevention measures or potential long-term solutions.

The FIR will be published within 6 months of an incident being reported to IoACC. However, there will be cases where this time frame will be extended (e.g. widespread flooding across the county).

During widespread flooding, the method for prioritising flood investigations will be prioritised; mainly taking into account the following flood characteristics:

- The number of properties flooded internally; and
- The frequency of flooding based on historical records from the past 10 years considering the storm intensity over such a period.

Once completed all FIRs will be published on Isle of Anglesey County Council website: Flood Investigation Reports

Stage 3 - Application for Funding

The purpose of stage three is to identify if any of the potential long-term solutions identified in Stage 2 are feasible as future alleviation projects.

If a flood incident has been identified which has affected several properties, a major transport route, and critical infrastructure or where it is likely to occur again, a Stage 3 investigation is initiated to apply for Welsh Government and IoACC funding.

Funding can be made available for small scale improvement works, business cases, flood risk pilots (such as NFM), scheme designs, or construction works.

4.5.4 Register of Flood Risk Assets

Section 21 of the Flood and Water Management Act gives LLFAs a duty to establish and maintain a register of structures and features which in the authority's opinion are likely to have a significant effect on flood risk it its area. The register should contain information about ownership and the state of repair of the structure.

An asset in the context of flood risk management is an artificial or natural structure that works as a flood defence or as part of a drainage system or other feature considered likely to have a significant impact on flood risk. An example could be a trash screen, culvert, pumping station, walls or banks of a river channel.

IoACC is required to keep an asset register of structures or features which it considers are likely to have a significant effect on local flood risk. Information on ownership and state of repair will be held on the register and it will be made available for inspection by the public at all reasonable times.

The register takes the form of a live database, which is constantly updated in the light of flood incidents, flood investigations and changes to infrastructure. Sustainable drainage assets are recorded, and asset data may also be captured through local studies, such as the Surface Water Management Plans. The recording of assets will be prioritised by location; future flood risk mapping and known flood risk areas taken from the Preliminary Flood Risk Assessment will be used to analyse the 'significance' of each flood risk asset. The vulnerability of the asset's surroundings will also be used to determine the consequences of its failure.

Assets require inspection and maintenance in order to prevent failure, which can otherwise be caused by deterioration or increased frequency and magnitude of flooding. There has often been much confusion over the ownership and maintenance responsibility of local flood risk assets. This is likely to be due to local drainage infrastructure commonly being hidden underground or along land boundaries, where landowners either do not realise or acknowledge that they have any responsibility.

Within Anglesey most of the coastal defence assets are the responsibility of IoACC, the Harbour Authority (in Holyhead) or private landowners. Stena Line Ports Ltd, are the statutory Harbour Authority within Holyhead and is responsible for the 2.5 km historic breakwater which shields the deep-water port. The WG and Network Rail have some defences (usually where the road or rail is the seaward side of the infrastructure) at the A5, A55, and rail crossings at the Stanley Embankment in Valley.

IoACC has created a register of all existing information on structures that are likely to have a significant effect on flood risk. These assets include:

- Coastal defences;
- Ordinary watercourses on IoACC owned land;
- Fluvial assets on IoACC owned land;
- Demountable defences;
- SuDS Schemes;
- NFM schemes; and
- Maintenance schedules.

4.5.5 Designating Assets

Schedule 1 of the Flood and Water Management Act 2010 (FWMA) sets out the legal powers to address and reduce the risk of altering or removing structures and features on private land that contribute to flood or coastal erosion risk management. The schedule includes the following conditions:

- The designating authority must have flood or coastal erosion risk management functions for the affected risk.
- The structure or feature cannot be designated by another authority for the purposes of the schedule.
- The owner of the structure or feature cannot be the designating authority.

IoACC and NRW are 'designating authorities'. That is, they have the permissive powers to 'designate' features or structures which they consider affect flood risk and are not owned by the LLFA or NRW.

If an asset becomes 'designated' its owner cannot alter, remove or replace a designated structure or feature without the consent of the designating risk management authority. The aim of designating flood risk assets is to safeguard them against unchecked works which could increase flood risk in the area.

Designation of features or structures is not something that will be done regularly but only conducted when it is deemed that there are concerns about the asset.

Note: designation of an asset does not mean there is a duty on anyone to maintain it in its current condition.

4.5.6 Sustainable Development

The FWMA requires flood and coastal erosion risk management authorities to contribute to sustainable development when exercising their functions. This gives IoACC a duty to contribute towards the achievement of sustainable development in the exercise of flood or coastal erosion risk management functions and to have regard to the Welsh Ministerial guidance on this topic.

4.5.7 Works to Ordinary Watercourses

IoACC are responsible for the regulation of ordinary watercourses. This includes issuing of consents for any changes to ordinary watercourses that might obstruct or alter the flow of an ordinary watercourse and enforcement action to rectify unlawful and potentially damaging work to a watercourse under powers available in Section 23 of the Land Drainage Act 1991 as amended by the Flood and Water Management Act 2010. NRW still retains their responsibility of consenting works on main rivers.

If riparian owners or other bodies wish to culvert an ordinary watercourse or insert any obstruction, consent is required. The purpose of ordinary water course regulation is to control activities that may have an adverse flooding impact.

4.6 IoACC as a SuDS Approval Body (SAB)

Sustainable drainage systems (SuDS) are a change of approach from conventional drainage which aimed to convey water as quickly as possible from a development, often causing watercourses downstream to overload and potentially cause flooding. The key principles that influence the planning and design of SuDS are:

- Harvesting and using the rain close to where it falls;
- Allowing water to soak into the ground (infiltration);
- Storing runoff and releasing it slowly (attenuation);
- Slowly transporting (conveying) water on the surface;
- Filtering out pollutants; and
- Allowing sediments to settle out by controlling the flow of the water[10].

SuDS are also an opportunity to ensure that amenity and biodiversity are considered with the same importance as managing volumes of water.

Schedule 3 of The Flood and Water Management Act 2010 assigns IoACC the role of a SuDS Approval Body (SAB) for the island. The SuDS approval process is independent but runs parallel with the planning process.

The SAB is a statutory function delivered by the local authority to ensure that drainage proposals for all new developments of more than 1no. house or where the construction area is 100m^2 or greater are designed and built in accordance with the national standards for sustainable drainage published by Welsh Ministers.

The roles of the SAB are to:

- Evaluate and approve drainage applications for new developments where construction work has drainage implications;
- Adopt and maintain sustainable surface water drainage systems according to Section 17 of Schedule 3 (FWMA);
- Hold powers of inspection and enforcement; and
- Use discretionary powers to offer non-statutory pre-application advice.

Where applicable, the statutory consultees are; DCWW, NRW (also the Internal Drainage Board), the local Highway Authority, and the Canal and Rivers Trust.

[10] www.susdrain.org

4.6.1 SuDS Adoption

The SAB has a duty to adopt a drainage system which satisfies the following conditions:

- That the drainage system was constructed in pursuance of proposals approved under paragraph 7 of Schedule 3 of the Flood and Water Management Act 2010.
- That the drainage system was constructed and functions in accordance with the approved proposals.
- That the SAB can issue or has issued a certificate under paragraph 12(2) of Schedule 3 of the Flood and Water Management Act 2010.
- That the drainage system is a sustainable drainage system, as defined by regulations made by the Minister.

The adoption duty does not apply to a drainage system which is designed only to provide drainage for a single property.

The adoption duty does not apply to any part of a drainage system which is a publicly maintained road. SuDS draining public roads will be adopted by the Highway Authority.

Further information about IoACC as SAB can be found here: IoACC Sustainable Drainage Systems Approval Body (SAB)

4.7 Flood and Coastal Erosion Schemes

IoACC have successfully carried out works to reduce flood risk across the county.

Through the delivery of the updated Local Flood Risk Management Strategy, IoACC plan to work with funding partners such as Welsh Government to implement further schemes to reduce flood risk.

The following section sets out recently completed case studies of completed schemes. Further information is available on our website and via requests for information.

4.7.1 Automated Trash Screen – Mill Lane, Beaumaris

In 2021, IoACC delivered an automated back raking screen in Beaumaris. Funded by Welsh Government, the project has reduced flood risk to over 10 properties. Previously the area was prone to flood risk as the old screen would block, causing water to spill out of channel and flow towards properties.

The screen was also difficult and dangerous to clear during a flood event.

The new screen activates automatically when a pre-defined level is reached. It collects debris such as branches and leaves and deposits onto the top deck. The debris can be collected and clear safely after a storm.

The project received the of Outstanding Design and Construction (Roy Edwards) Award from the Institute of Civil Engineers in 2022.

Further information can be hound here - https://waterco.co.uk/anglesey/

4.7.2 Natural Flood Management (NFM) Pilot, Dwyran

In 2021, IoACC completed Natural Flood Management (NFM) pilot Dwyran. Funded by Welsh Government, the pilot has reduced flood risk to up to six properties and enhanced the local environment.

Anglesey Council worked with landowners to design and construct a wetland area which acts to store flood water during heavy rainfall. A control device opens or closes an outfall when the downstream water network has the capacity to take the stored flood water.

A wetland area has also been created with improved environmental and biodiversity properties.

The project received the of Chair's Special Award for Innovation from the Institute of Civil Engineers in 2023.

Further information can be hound here - https://waterco.co.uk/dwyran/

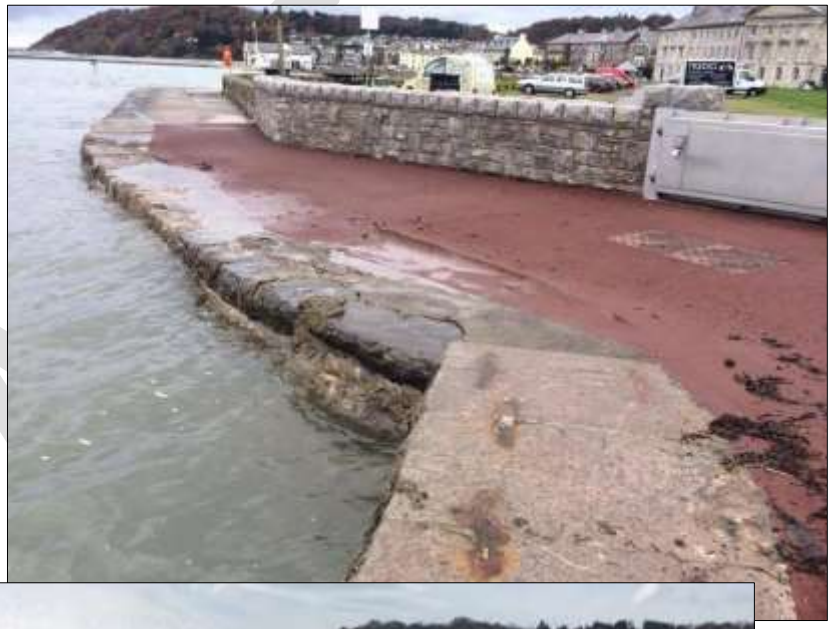
4.7.3 Capital Works Programme

There are ongoing studies in Holyhead, Amlwch, Benllech and Llangefni leading to the Capital Works Programme.

The most recent capital scheme, completed in 2022, was a £0.75m flood alleviation scheme in Valley, involving the creation of an attenuation pond to capture flood waters, when the drainage ditches are unable to function in periods of high tide.

A £2m coastal flood wall improvements were completed in Beaumaris in 2020.

A £1.2m fluvial scheme was completed in Pentraeth in 2020.



4.7.4 Wales Coastal Monitoring Centre – CoastSnap

CoastSnap, a Citizen Science scheme, encourages people to take photos from fixed locations to help provide data regarding how climate change is impacting beaches within Wales. Beaumaris is one of the sites within Wales where this scheme is taking place.

https://www.wcmc.wales/coastsnap

5. Our strategic Objectives

5.1 National Strategy Objectives

The National Strategy sets out an overarching aim to reduce the risk to people and communities from flooding and coastal erosion. It identifies 5 objectives for delivering this aim. These are summarised below in Figure 5.

Figure 5 - National Strategy (2020) Objectives

5.2 Objectives in our area

For this Local Strategy, we have developed our own strategic objectives which both align with the National Strategy objectives and reflect our local context and priorities. Table 3 below presents IoACC's local strategic objectives and their inter-relationship against the National Strategy objectives.

Table 3 – Local Strategy Objectives

Local Strategy Objectives (Key Priority Areas)	**National Strategy Objectives**				
	A	B	C	D	E
Objective 1 Improve understanding of local flood and coastal risks.	✓				
Objective 2 Improve communication.	✓				
Objective 3 Increase preparedness and resilience.		✓			
Objective 4 Collaborate to reduce flood and coastal risk.	✓	✓		✓	✓
Objective 5 Minimise the risk and impacts of flooding and coastal erosion to individuals, communities, businesses and the environment.		✓		✓	
Objective 6 A sustainable and holistic approach.		✓	✓		
Objective 7 Where possible, prioritise investment to the most at risk communities.			✓		
Objective 8 To provide an appropriate effective and sustained response to flood and coastal erosion events.					✓
Objective 9 Use knowledge and data to inform planning decisions and policy formulation.				✓	

6. What is the risk of flooding in our area?

Flooding is a hazard as it has the potential to cause harm to human health and life and effect

the natural and built environment. It can occur from a number of sources, including (main) rivers, the sea, small local (ordinary) watercourses, below ground drainage systems and direct surface water run-off. Understanding both the sources of and reasons for flooding, ensures that IoACC can take steps to manage and reduce the risks of flooding. Flood risk is the product of the likelihood or chance of flooding, multiplied by the consequences or impacts of flooding. The predicted impacts could include:

- Risk to life (people and animals)
- Damage to property, businesses, agricultural land, roads, structures and infrastructure.
- Pollution and contamination of local environments
- Long term damage to tourism, businesses and agriculture.

Flooding remains a key threat to communities across IoACC, and this is evidenced by the impact of recent storm events such as the devasting consequences of Storm Babet and Storm Dennis.

Stats Wales outlines that the following numbers of properties are at risk of flooding from the following main flooding sources based on the 2019 initial publication of the Flood Risk Assessment Wales (FRAW):

- Rivers = 230
- Surface Water and Small Watercourses = 2,093
- Tidal = 503

This Section summarises the different sources of flooding in IoACC and provides an overview of these flood risks, focusing on the risk from local sources.

The assessment of flood risk in IoACC is based on a combination of Communities at Risk Register (CaRR) data, combined with local flood history information and catchment boundaries, to provide the best understanding and evidence base. The approach to the assessment is further explained in Section 6.1.

6.1 How we assess flood risk

The methods used to assess flood risk in Anglesey are critical to reducing and managing flooding. Since the publication of the first Local Strategy in 2013 and the Flood Risk Management Plan in 2015, there have been improvements in mapping and datasets. This allows for a more accurate assessment of local flood risk in Anglesey.

The following section sets out how flood risk in Anglesey has been assessed and the methods used to define risk levels for communities.

In summary, defined community boundaries have prepared to predict flood risk based on low medium and high-risk scenarios for different types of flood risk.

We have used a combination of recorded and predicted flood risk data to estimate where and why flooding may occur.

The outputs have been used to inform an Action Plan to reduce flood risk in the areas identified at risk over the life of the flood risk management strategy.

Proposals include assessments, improving local knowledge and construction works.

Flood risk has been assessed through the following list of criteria:

- **Datasets** – Information used to calculate flood risk
- **Designation of Area / Community** – How community boundaries have been defined
- **Scenario** – The scenario used to define the type of event used to predict flood risk (low, medium and high).
- **Flood Type** – The flood source used to predict risk (coastal, rivers and surface water)
- **Output** – Summary of flood risk to inform Action Plan

6.1.1 Datasets

In order to assess flood risk across Anglesey, recorded and predicted data has been collated and formatted for use as part of the assessment.

National Receptors Dataset

The National Receptors Dataset is a spatial dataset which contains several GIS layers categorised into themes of information including; buildings, environment, heritage, transport and utilities.

This information has been used to count the number of items within a specific category estimated to be at risk of flooding based on a predefined scenario.

For example, 10 residential properties may be at risk from a high-risk coastal flood event.

Flood Risk Assessment Wales (FRAW) Map

NRW flood map showing:

- Flood risk from the sea, rivers, surface water and small watercourses and reservoirs.
- The location of flood defences and areas benefitting from defences.
- Information on shoreline management plans and areas at risk of coastal erosion.

- Flood Warning and Alert areas.

The flood risk map has been used to assess High Medium and Low flood risk for the categories of receptors.

Coastal and Inland Catchment Boundaries

A catchment area is an area of land which drains into a single river system. The area often contains interconnected waterbodies such as rivers, lakes and groundwater.

The Inland catchment areas allow IoACC to assess flood water within a whole catchment, rather than be constrained my administrative boundaries.

The Coastal catchment areas approximate to the Shoreline Management Plan zones, based on the coast's geomorphological characteristics.

Communities at Risk Register (CaRR) Areas

GIS boundary data for Wales where all communities have been given unique regional boundaries.

The CaRR areas have been used for data collation and to define individual communities.

Recorded Flood Incidents

Flood incident data recorded by IoACC for all incidents logged since August 2012. They have been grouped according to the Inland FRAs as these cover the whole of Anglesey.

This data provides an addition to the data from the FRAW map, potentially identifying areas at risk which are not shown on the flood map.

6.1.2 Designation of Area / Community

CaRR areas and Coastal and Inland Catchment Boundaries have been used to create the regional and local boundaries for each scenario assessed.

Fifteen coastal and twelve inland catchment areas have been defined.

The Coastal and Inland Catchment Boundaries have been used for the flood type estimates and the CaRR areas been used to define the communities at risk within each catchment.

For example, Coastal Flood Risk Area A encompasses the CaRR Areas Holyhead and Penrhos.

6.1.3 Scenario

FRAW has been used to define the scenarios which incident counts will be plotted against.

The scenarios are listed below:

- High Risk: Chance of flooding greater than 1 in 30 (3.3%) each year.
- Medium Risk (Sea): Chance of flooding between 1 in 30 (3.3%) and 1 in 200 (0.5%) each year.
- Medium Risk (Rivers, Surface Water and Small Watercourses): Chance of flooding between 1 in 30 (3.3%) and 1 in 100 (1%) each year.
- Low Risk (Sea): Chance of flooding between 1 in 200 (0.5%) and 1 in 1000 (0.1%) each

year

- Low Risk (Rivers, Surface Water and Small Watercourses): Chance of flooding between 1 in 100 (1%) and 1 in 1000 (0.1%) each year.

6.1.4 Flood Type

FRAW has been used to define the following flood risk types which inform the FRMP:

- Flood Risk from the Sea
- Flood Risk from Rivers
- Flood Risk from Surface Water and Small Watercourses

6.1.5 Output

The information discussed above has been used to prepare outputs from the FRMP. The methodology applied to the available datasets has allowed IoACC to present charts and tables to show which areas are predicted to be at flood risk against each scenario from each flood type.

The results can be sub-summarised based on National Receptor type.

6.1.6 Applied Example - What is the flood risk to Penrhos?

Penrhos is situated in Coastal Flood Risk Area 'A' and Inland Flood Risk Area 'Ynys Cybi'.

County Level Flood Risk

On a county level, the table below presents the predicted flood risk in Anglesey.

Table 4 – County Level - Residential Flood Risk

	Residential properties at risk of internal flooding		
Flood Type	**High Risk (chance of flooding greater than 1 in 30 each year)**	**Medium Risk (chance of flooding between 1 in 30 and 1 in 200 each year)**	**Low Risk (chance of flooding between 1 in 200 and 1 in 1000 each year)**
Flood risk from the sea	768	368	522
Flood risk from rivers	323	63	190
Flood Risk from Surface Water and Small Watercourses	147	23	129

	Residential properties at risk of internal flooding		
Flood Type	**High Risk (chance of flooding greater than 1 in 30 each year)**	**Medium Risk (chance of flooding between 1 in 30 and 1 in 200 each year)**	**Low Risk (chance of flooding between 1 in 200 and 1 in 1000 each year)**
Totals	**1238**	**454**	**841**

Catchment Level Flood Risk

On a catchment level, the table below presents the predicted flood risk and recorded flood incidents to the Penrhos areas (Coastal Area A and Flood Risk Area Ynys Cybi).

Table 5 - Catchment Level - Residential Flood Risk

	Residential properties at risk of internal flooding		
Flood Type	**High Risk (chance of flooding greater than 1 in 30 each year)**	**Medium Risk (chance of flooding between 1 in 30 and 1 in 200 each year)**	**Low Risk (chance of flooding between 1 in 200 and 1 in 1000 each year)**
Flood risk from the sea	125	107	125
Flood risk from rivers	21	0	20
Flood Risk from Surface Water and Small Watercourses	46	4	44
Recorded flood incidents	130	130	130
Totals	**322**	**241**	**319**

Analysis

Although Penrhos is situated in an area at risk of flooding from all sources, there appears to be limited risk to of residential property flood risk. Based on recorded flood incidents, it appears that the majority of issues were reported in Holyhead. On this basis, it is unlikely that any FRM actions will be put forward in IoACC' s Action Plan, specifically for Penrhos. The data used to make this assessment is included in Appendix F.

If further analysis identifies flood risk to critical infrastructure, an asset survey may be recommended to map any assets that could have an impact on local flood risk.

6.2 Overview of flood risk in our area

Based on the methodology discussed above, a Flood Risk Management Plan (FRMP) has been prepared for Anglesey. Definitive outputs have been included in Appendix F.

The following sections set out key information for each flood type.

6.2.1 Flood Risk from the Sea

The map below (Figure 6) displays the coastal flood areas in Anglesey.

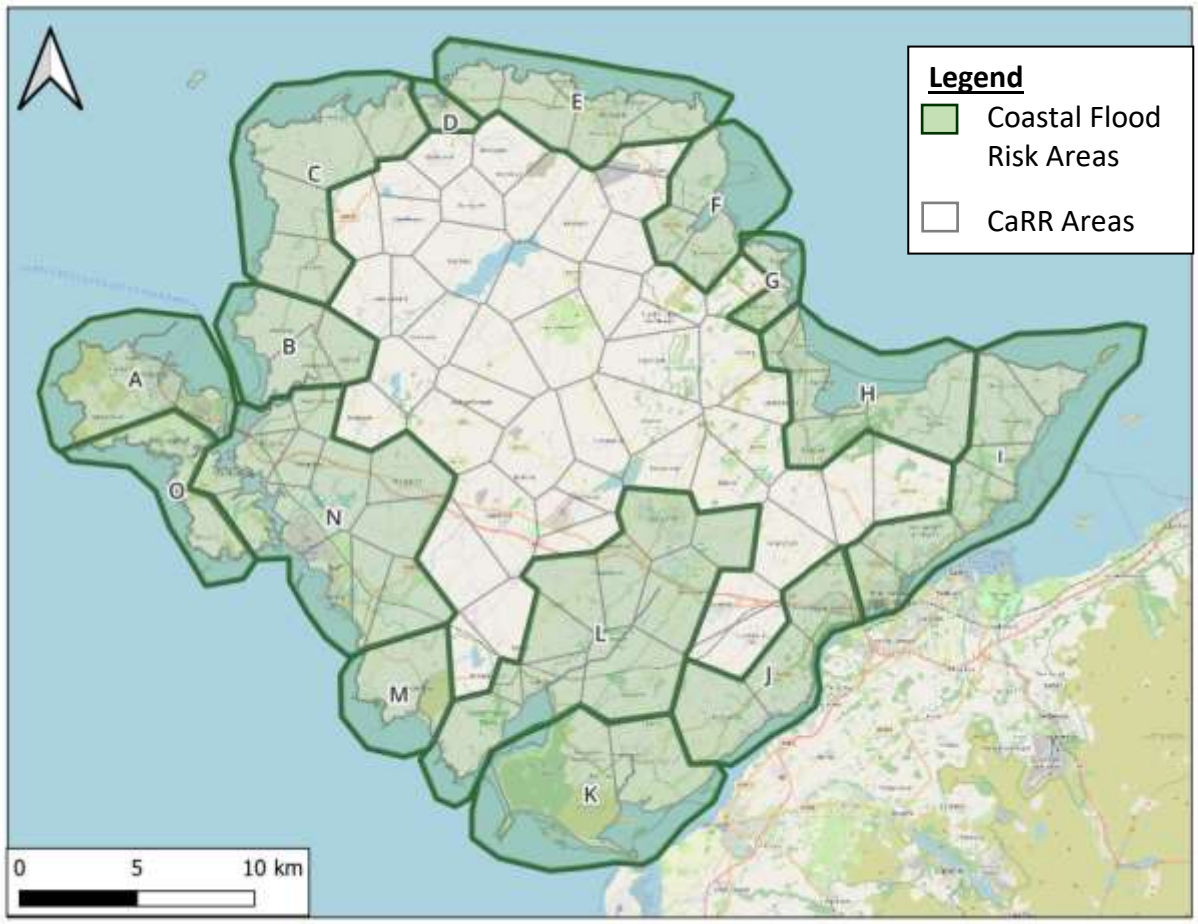


Figure 6 – Coastal Flood Risk Areas in Anglesey

The chart below (Figure 7) presents the predicted flood risk to risk receptors (residential properties, non-residential properties and essential services) at risk of flooding from the sea for the high-risk event scenario.

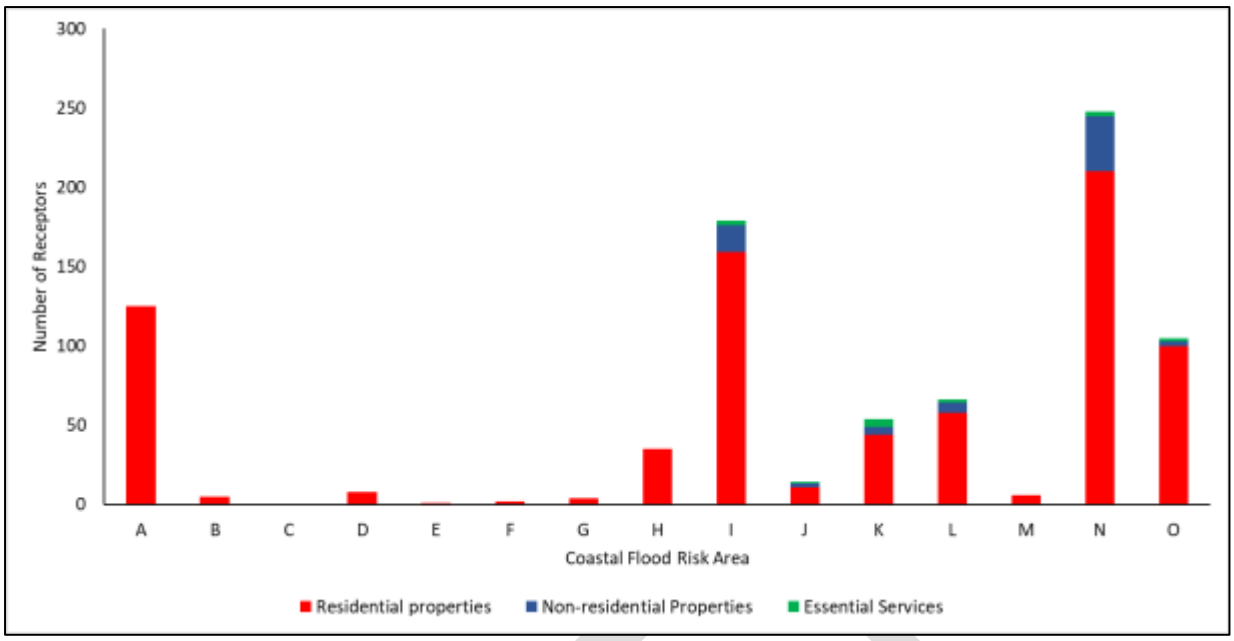


Figure 7 - Risk Receptors Chart – High Risk Coastal Scenario

6.2.2 Flood Risk from Rivers and Surface Water and Small Watercourses

The map below (Figure 8) presents the inland flood areas in Anglesey.

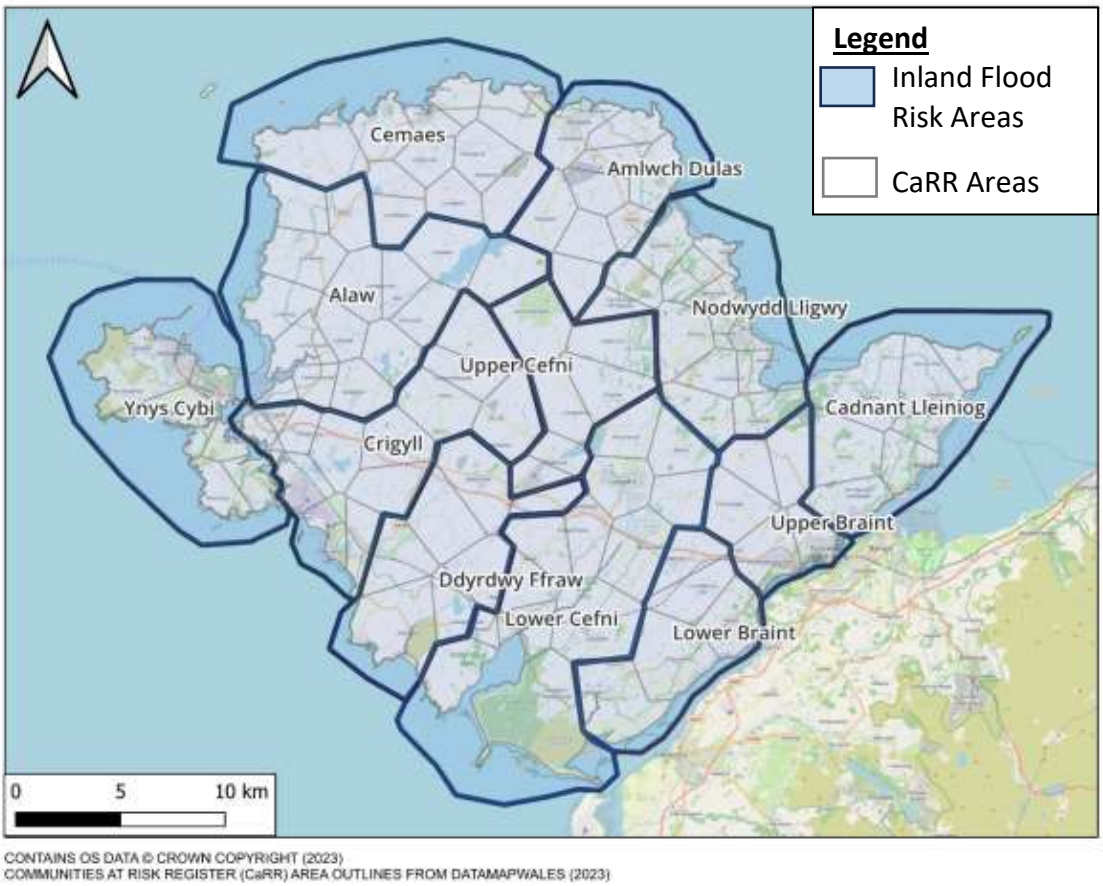


Figure 8 – Inland Flood Risk Areas in Anglesey

The charts below (Figures 9 & 10) present the predicted flood risk to risk receptors (residential properties, non-residential properties and essential services) at risk of flooding from rivers and surface water for the high-risk scenario.

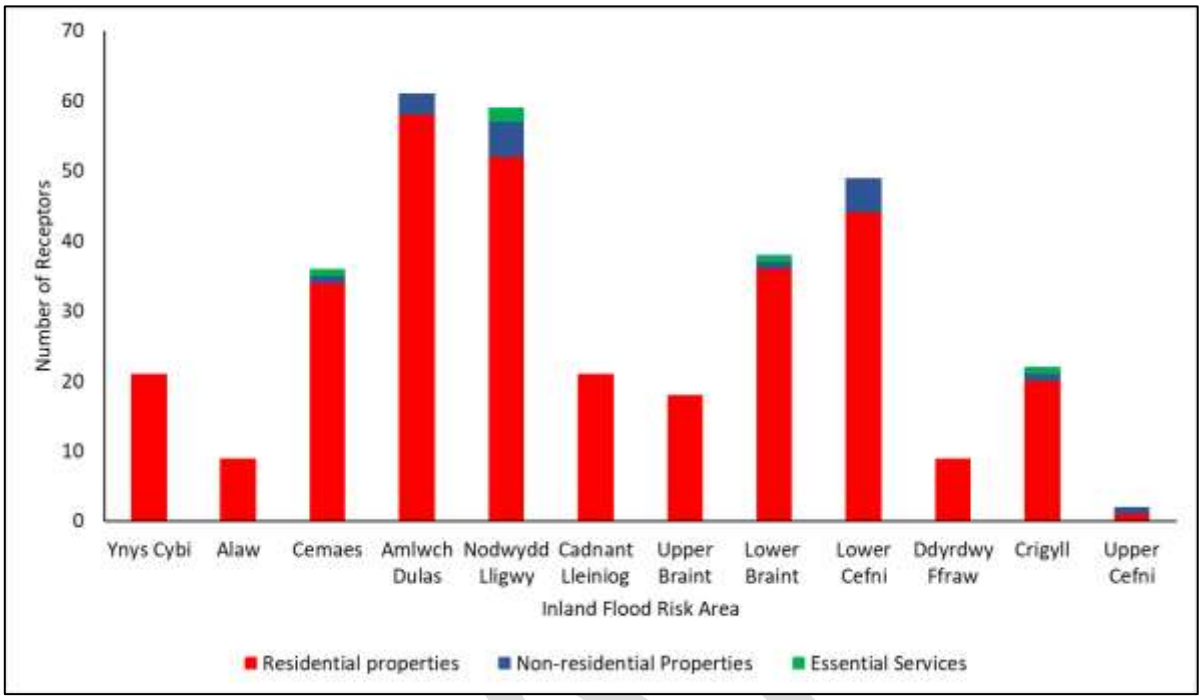


Figure 9 - Risk Receptors Chart – High Risk River Scenario

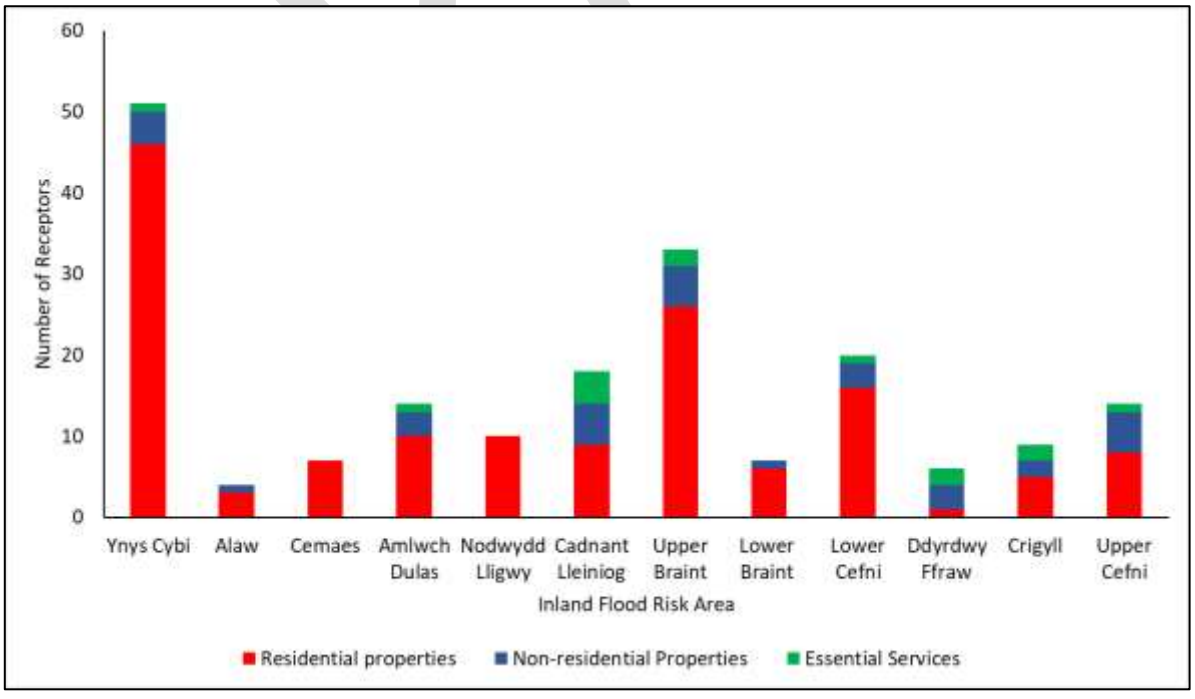


Figure 10 - Risk Receptors Chart – High Risk Surface Water and Small Watercourse Scenario

6.2.3 Recorded Flood Incidents

The chart below (Figure 11) presents the recorded flooding incidents in Anglesey since 2012. The 'Inland Flood Risk Areas' have been used because they cover the whole of Anglesey. These flood records could relate to flooding from any source whereas the data presented above only relates to flood risk from the sea, rivers and surface water and small watercourses

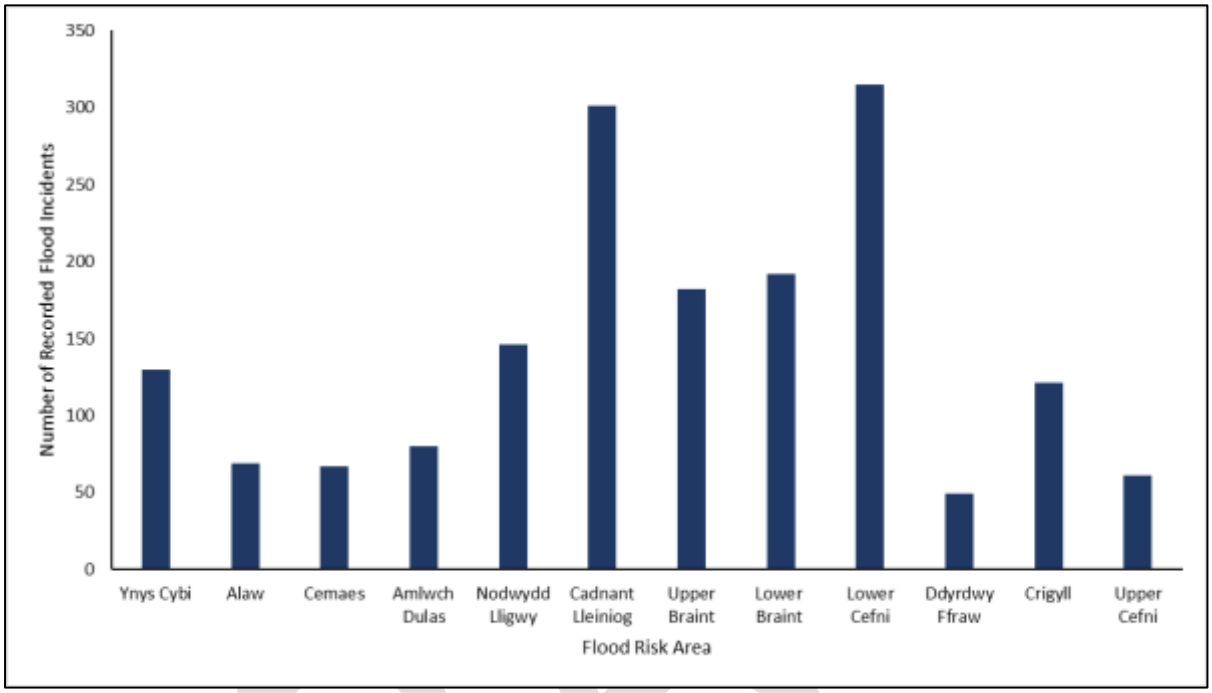


Figure 11 – Number of Recorded Flood Incidents in Anglesey (Inland Flood Risk Areas)

6.2.4 Summary of Flood Risk Areas

Based on the data methodology described above, Table 6 shows a summary of the areas at most risk of flooding in Anglesey. The data used to inform this assessment is included in Appendix F.

Table 6 – Summary of Flood Risk Areas in Anglesey

CaRR Area	Source of Flooding	Receptors at Risk
Amlwch	Rivers	Residential, Non-residential
Beaumaris	Sea	Residential, Non-residential, Essential Services
	Surface Water & Small Watercourses	Non-residential, Essential Services, Minor Roads
Benllech	Rivers	Residential, Non-residential, Essential Services
Dwyran	Sea	Residential, Essential Services
	Rivers	Residential
Dyffryn	Sea	Residential, Non-residential, Minor roads

CaRR Area	Source of Flooding	Receptors at Risk
Gaerwen	Based on flood incident data	
Holyhead	Sea	Residential, Non-residential
	Rivers	Residential
	Surface Water & Small Watercourses	Residential, Non-residential, Essential services
Llandegfan	Based on flood incident data	
Llanfair Pwllgwyngyll	Rivers	Residential, Railways and roads
	Surface Water & Small Watercourses	Residential, Non-residential, Essential Services, Railways and roads
Llanfechell	Rivers	Residential
Llangaffo	Sea	Minor roads
	Rivers	Minor roads
	Surface Water & Small Watercourses	Railways
Llangefni	Rivers	Residential, Non-residential, Railways
Llangoed	Based on flood incident data	
Llangristiolus	Surface Water & Small Watercourses	Minor roads
Malltraeth	Sea	Residential, Minor roads
	Rivers	Minor roads
Menai Bridge	Sea	Residential
Moelfre	Rivers	Residential
Pentre Berw	Based on flood incident data	
Red Wharf Bay	Sea	Residential
Trearddur	Sea	Residential

7. Funding and prioritisation

7.1 Funding options

Measures to manage local flood risk are funded from a range of sources.

Welsh Ministers may provide revenue and capital grants in relation to FCERM activities. Welsh Government will 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.

The Welsh Government prioritises FCERM schemes which primarily reduce risk to homes. Businesses and public buildings can also benefit from schemes, particularly 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.

The Small-Scale Works Grant supports Local Authorities carry out smaller works, resilience measures on a community scale, NFM and essential maintenance through a simplified process. Funding is available annually for works up to £150,000 and has proved successful in driving delivery and risk reduction, with £4.3 million allocated for such schemes in 2020-21.

7.1.1 Current FCERM Funding Sources

The following potential funding sources were considered for the development of the Local Flood Risk Management Strategy and Action Plan

- **Revenue Funding** – IoACC have an annual revenue funding stream for FCERM functions. This funding is used to cover staff costs, surveys, investigations, assessments and contributes towards all statutory and non-statutory duties in relation to flood risk management.
- **Small scale grant scheme (Welsh Government)** – Welsh Government invite funding applications for LLFAs to carry out assessments, design and construction works for proposed minor flood alleviation works.
- **Capital Funding (Welsh Government)** – Welsh Government invite funding applications for LLFAs to carry out all stages of capital FCERM works including business cases, design and construction. Subject to the stage of a project, LLFAs are required to contribute towards deliver of the capital works (currently set to 15%).
- **External Funding Streams** – LLFAs can consider working in collaboration with funding partners such as RMAs or private developers and landowners to deliver FCERM works.

8. Flood Measures

8.1 Introduction to flood Measures

The Objectives outlined in Section 5.2 will be delivered through the implementation of the Measures detailed in Section 8.2. Each measure has been provided with an indicative timescale and cost category. The cost and timescale cost categories are detailed below.

Timescales

- **Ongoing:** Whole life of Strategy
- **Short Term:** 0 - 2 years
- **Medium Term:** 3 - 5 years
- **Long Term:** 6 - 10 years

Costs

- **Existing Resources (ER):** No cost implication, within current budgets
- **Very Low Cost:** £0 - £10,000
- **Low Cost:** £10,001 - £30,000
- **Medium Cost:** £30,001 - £100,000
- **High Cost:** £101,000 - £500,000
- **Very High Cost:** £500,000 +

8.2 Measures

Objective 1 - Improve understanding of local flood and coastal risks

Measure 1.1	Record all flooding incidents which IoACC are made aware of and where appropriate carry out flood investigations.
Description	When made aware of a flooding or potential flooding incident, IoACC will record log and record within their GIS management system.
Benefits including multiple/wider benefits	▪ Accurate records of local flood history ▪ Improved local knowledge of potential flooding issues ▪ Recorded information to inform future funding opportunities.
Indicative timescale	Ongoing
Indicative cost	Existing Resources
Funding options	Revenue funding
Delivery partners	N/A

Measure 1.2	Record all appropriate structures/assets on watercourses so that ownership and responsibility can be identified in the event of a problem with flooding.
Description	Upon being made aware of an issue, IoACC will record all appropriate structures/assets on watercourses and will identify ownership so that appropriate responsibility can be taken for these assets. Data will be logged within the GIS system and be included within the asset register.
Benefits including multiple/wider benefits	▪ Improved asset register. ▪ Roles and responsibilities defined. ▪ Asset condition noted. ▪ Recorded information to inform future funding opportunities. ▪ Inform National Asset Database (NAD)
Indicative timescale	Ongoing
Indicative cost	Low
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	N/A

Measure 1.3	Ensure the condition and general arrangement of existing drainage assets within the County are assessed to prioritise capital investment.
Description	All known assets managed by Isle of Anglesey County Council will be logged and inspected to confirm their general arrangement and condition.
Benefits including multiple/wider benefits	▪ Accurate record of asset data ▪ Evidence based asset management and investment ▪ Can lead to cross service improvements including centralised GIS system and revised maintenance schedules. ▪ Information can be considered to update Flood Risk Management Plans (FRMP)
Indicative timescale	Long term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding

	▪ Small scale grant scheme (Welsh Government)
Delivery partners	N/A

Measure 1.4	Develop a county wide map-based record system of flood risk assets, Flood Investigation Reports, historical flooding and areas at risk of flooding to allow a proactive risk management approach to be taken by the flood authority.
Description	Review and collate all known flood risk management data into a single centralised system. System to be made available to all internal service and used to inform National Asset Database (NAD).
Benefits including multiple/wider benefits	▪ Accurate county wide map-based system ▪ Historical data (sketches, pdfs, etc) to be converted and purged into new system, reducing archive needs. ▪ Information to be used to inform FRM decision making. ▪ Can be shared with other services. ▪ Can be used to update NAD. ▪ Live system easily updated.
Indicative timescale	Medium term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	N/A

Objective 2 - Improve communication

Measure 2.1	Provide strategic leadership and direction at a local level.
Description	Prepare Local Flood Risk Management Strategy which has been fully consulted within Anglesey. Prepare and manage action plan to ensure strategy objectives are delivered. Setup appropriate committee to oversee delivery of strategy. Develop communication strategy to ensure flood risk management roles and responsibilities are better

	understood by communities, members and Risk Management Authorities (RMAs). Review and update council website to ensure helpful flood risk management information available.
Benefits including multiple/wider benefits	▪ Ensure proactive approach is taken to flood risk management. ▪ Appropriate funding and resources available to successfully deliver LFRMS and action plan. ▪ Regular reporting on delivery of LFRMS and action plan.
Indicative timescale	Short term
Indicative cost	Existing Resources
Funding options	Revenue funding
Delivery partners	N/A

Measure 2.2	Target areas at high risk of flooding to increase awareness of emergency procedures in the event of a flood.
Description	Prepare Flood Risk Management Plans (FRMP) to consider all sources of flood risk. FRMP to adopt catchment-based approach to designation with interventions based on theoretical flood risk and historical flooding. Development of Communication Strategy to include community awareness events, with local communities identified through FRMP.
Benefits including multiple/wider benefits	▪ Risk based approach following national template. ▪ 'live' action plan to be updated on annual bases to include recent flood events.
Indicative timescale	Ongoing
Indicative cost	Low Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	TBC

Measure 2.3	Promote and work together with groups including community flood groups.
Description	As part of the development of a Communication Strategy, IoACC will review existing community and regional working groups.
Benefits including multiple/wider benefits	▪ Improved community engagement and local awareness. ▪ Local communities to take ownership of local flood risk management.
Indicative timescale	Medium term
Indicative cost	Low cost
Funding options	Revenue
Delivery partners	TBC

Measure 2.4	Ensure the IoACC website contains current and relevant information and has clear signposting.
Description	Council website to be reviewed and periodically updated. The website should contain relevant information and be easy to navigate, leading to increased engagement by Anglesey residents, in turn meaning they will be better informed about flood events and flood management.
Benefits including multiple/wider benefits	▪ Easy access to relevant FRM data. ▪ Website to include project updates. ▪ Signpost to additional resources prepared by RMAs. ▪ Utilise all suitable social media platforms.
Indicative timescale	Short term
Indicative cost	Very low cost
Funding options	Revenue funding
Delivery partners	TBC

Measure 2.5	Ensure that flood warning communications are accessible to as many people as possible.
Description	IoACC will ensure that NRW flood warnings are shared where appropriate. IoACC will also ensure that information relating to local

	flooding is communicated widely; this may be through the website, social media, local news or in person.
Benefits including multiple/wider benefits	Easy access to relevant FRM data.
Indicative timescale	Short term
Indicative cost	Existing Resource
Funding options	Revenue funding
Delivery partners	TBC

Objective 3 - Increase preparedness and resilience

Measure 3.1	Support communities to better understand flood risk, to become more resilient to flooding and to manage their own flood risk.
Description	IoACC will work with local communities, through community flood groups, in person events and the media. Information on flood risk and flood protection measures will be shared so that the communities are better able to manage flood risk.
Benefits including multiple/wider benefits	▪ Improved local resilience ▪ Improved knowledge of roles and responsibilities ▪ Improved preparedness of a potential flood event
Indicative timescale	Medium term
Indicative cost	Low cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	TBC

Measure 3.2	Collaborate with statutory bodies to promote the existing flood warning service (NRW) and their flooding campaigns.
Description	IoACC will ensure that NRW flood warnings and other flood information is shared via IoACC channels where appropriate. Information to be provided via social media and members briefings.
Benefits including multiple/wider benefits	▪ Improved local resilience ▪ Improved preparedness of a potential flood event

	▪ Easier access to information ▪ A greater number of people should access the NRW flood warning service if it also promoted through IoACC. They will be better able to prepare for flood events.
Indicative timescale	Short term
Indicative cost	Low cost
Funding options	Revenue
Delivery partners	NRW

Measure 3.3	Increase public awareness of available flood prevention and resilience measures to protect their property and assets.
Description	As signposted through the development of a Communication Strategy, IoACC will improve website information and include information on flood resilience as part of flood awareness campaigns.
Benefits including multiple/wider benefits	▪ Improved local resilience ▪ Improved preparedness of a potential flood event ▪ Easier access to information
Indicative timescale	Medium term
Indicative cost	Very Low Cost
Funding options	Revenue funding
Delivery partners	National Flood Forum, Community Flood Groups

Measure 3.4	Promote multiple benefits in relation to flood management schemes to increase the resilience of communities and ecosystems.
Description	Consider environmental enhancements as part of all flood risk management functions.
Benefits including multiple/wider benefits	▪ Promoting amenity, biodiversity and water quality ▪ More diverse ecosystems ▪ Improved resilience to climate change
Indicative timescale	Ongoing
Indicative cost	Low Cost
Funding options	▪ Revenue funding

	▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government)
Delivery partners	TBC

Objective 4 - Collaborate to reduce flood and coastal risk

Measure 4.1	Maintain and share an asset register.
Description	IoACC will maintain the flood risk asset register with the latest information available in relation to both private and publicly maintained assets.
Benefits including multiple/wider benefits	▪ Accurate county wide map-based system ▪ Historical data (sketches, pdfs, etc) to be converted and purged into new system, reducing archive needs. ▪ Information to be used to inform FRM decision making. ▪ Can be shared with other services. ▪ Can be used to update NAD. ▪ Live system easily updated.
Indicative timescale	Medium term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	TBC

Measure 4.2	Ensure effective data sharing.
Description	IoACC will ensure effective data sharing with other RMAs, stakeholders and the public, contributing to broader water management strategies and ensuring increased transparency. Using powers provided in Section 14 of the FWMA 2010 IoACC will request information about flood and coastal erosion risk management from other RMAs and other land owners. IoACC will use their permissive powers under Section 64 of the Land Drainage Act to enter land to carry out the function of Land Drainage Authority to survey any land and inspect the condition of drainage work on it when

	appropriate.
Benefits including multiple/wider benefits	▪ Accurate county wide map-based system ▪ Historical data (sketches, pdfs, etc) to be converted and purged into new system, reducing archive needs. ▪ Information to be used to inform FRM decision making. ▪ Can be shared with other services and RMAs. ▪ Enable routine inspection and maintenance of, and improvements to, ordinary watercourses and FRM structures.
Indicative timescale	Ongoing
Indicative cost	Very Low Cost
Funding options	Revenue funding
Delivery partners	RMAs

Measure 4.3	Seek partnership working opportunities so that those that benefit from existing or proposed flood management schemes can contribute towards their planning and management.
Description	Work with partners such as residents, businesses and local communities so that they can have a greater involvement in planning and management of flood management schemes, to bring maximum benefit, including multiple benefits.
Benefits including multiple/wider benefits	▪ Communities able to take ownership of local flood risk management ▪ Improved local knowledge ▪ Improved local resilience ▪ Potential for external funding streams
Indicative timescale	Medium term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government) ▪ External funding streams
Delivery partners	TBC

Measure 4.4	Ensure riparian owners are aware of their duties to keep watercourses flowing freely.
Description	IoACC will work with riparian landowners to ensure that they are aware of their responsibilities to keep watercourses flowing freely.
Benefits including multiple/wider benefits	▪ Improved local knowledge ▪ Improved local resilience ▪ Reduced flood risk ▪ Better managed water systems ▪ Defined roles and responsibilities
Indicative timescale	Ongoing
Indicative cost	Medium Cost
Funding options	Revenue funding
Delivery partners	N/A

Measure 4.5	Provide support and guidance to people who wish to maintain or improve flood defences on private land.
Description	IoACC will provide guidance to residents or businesses on request through site visits, meetings and general advice.
Benefits including multiple/wider benefits	▪ Improved local knowledge ▪ Improved local resilience ▪ Reduced flood risk ▪ Better managed water systems ▪ Defined roles and responsibilities
Indicative timescale	Medium term
Indicative cost	Existing Resources
Funding options	Revenue Funding
Delivery partners	N/A

Objective 5 – Minimise the risk and impacts of flooding and coastal erosion

Measure 5.1	Identify areas at greatest risk of flooding and prioritise flood risk management in those areas.
Description	Identify risk areas through the Flood Risk Management, historical flooding and flood risk data.

	Prepare risk register to inform delivery of Action Plan. Where 'most-at-risk' flooding locations have been identified through the local flood risk assessment, IoACC will look to carry out detailed studies to understand and address the causes and mechanisms of flooding.
Benefits including multiple/wider benefits	▪ Risk based decision making ▪ Improved flood risk knowledge ▪ Forward investment planning ▪ Clarity of decision making when investing in specific areas
Indicative timescale	Long term
Indicative cost	High Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government)
Delivery partners	N/A

Measure 5.2	Establish regular maintenance schedules for flood and coastal erosion risk management assets.
Description	Collate managed asset data and work with appropriate departments to review and update maintenance schedules based on flood risk.
Benefits including multiple/wider benefits	▪ Improved knowledge ▪ Reduced flood risk ▪ Clearer scheduling
Indicative timescale	Medium term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	N/A

Measure 5.3	Minimise disruption to essential services and critical infrastructure.
Description	During and after a flood event, disruption to essential services and critical infrastructure, such as emergency services, hospitals, roads, railways and electricity power

	networks, should be minimised. This may require working with other RMAs.
Benefits including multiple/wider benefits	This is essential for the functioning and wellbeing of the residents of Anglesey.
Indicative timescale	Medium term
Indicative cost	Medium Cost
Funding options	Revenue funding
Delivery partners	Other RMAs and emergency responders

Measure 5.4	Ensure that coastal adaptation is applied appropriately to reduce risk to individuals, communities, businesses and the environment.
Description	IoACC will work with RMAs to ensure consistency with the Shoreline Management Plan (SMP). Coastal adaptation will be considered for all maintenance works and capital investment.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Enhanced environmental management
Indicative timescale	Long term
Indicative cost	Medium Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government)
Delivery partners	TBC

Objective 6 - A sustainable and holistic approach

Measure 6.1	Maximise the multiple benefits gained from flood management/alleviation schemes, including water quality, biodiversity and amenity as well as flood risk management.
Description	Flood management schemes should maximise increases in biodiversity, improvements to water quality and creation of amenity features as well as reduction to flood risk.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Enhanced environmental management ▪ Explore opportunities for additional funding streams

	▪ Improved collaborative working
Indicative timescale	Medium term
Indicative cost	High Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government)
Delivery partners	TBC

Measure 6.2	Encourage sustainable development within FCERM projects.
Description	IoACC will promote sustainable development, considering environmental, social and economic considerations within FCERM projects.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Enhanced environmental management ▪ Explore opportunities for additional funding streams ▪ Improved collaborative working
Indicative timescale	Medium term
Indicative cost	High Cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government)
Delivery partners	TBC

Measure 6.3	Where feasible, promote blue-green infrastructure within FCERM projects.
Description	Blue-green infrastructure to be an important consideration at optioneering stage for all FCERM projects.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Improved water quality ▪ Enhanced biodiversity ▪ Improved amenity areas ▪ Improved health and well-being ▪ Improved economic benefits through tourism

	▪ Explore opportunities for additional funding streams
Indicative timescale	Medium Term
Indicative cost	Very high cost
Funding options	▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government) ▪ External Funding Streams
Delivery partners	TBC

Measure 6.4	Encourage schemes involving Natural Flood Management (NFM) where appropriate.
Description	IoACC to consider NFM at optioneering stage for all potential FCERM projects. Wider funding streams will also be explored to identify areas suitable for NFM through collaboration with landowners, the community and other RMAs.
Benefits including multiple/wider benefits	▪ Biodiversity and conservation ▪ Improved community wellbeing ▪ Habitat creation and green spaces ▪ Improved Water quality ▪ Reduced flood risk ▪ Explore opportunities for additional funding streams
Indicative timescale	Medium term
Indicative cost	High cost
Funding options	▪ Small scale grant scheme (Welsh Government) ▪ Capital Funding (Welsh Government) ▪ External Funding Streams
Delivery partners	TBC

Objective 7 – Where possible, prioritise investment to the most at risk communities

Measure 7.1	Develop a capital investment programme to reduce the frequency of flooding to the most at risk areas.
Description	Develop a risk-based approach to develop a proactive investment programme across the county. Consideration to be given to FRMP outputs, managed

	assets, S19 investigations and critical gullies.
Benefits including multiple/wider benefits	▪ Proactive approach to flood risk management ▪ Transparent investment plan ▪ Reduced flood risk ▪ Informed decision making
Indicative timescale	Medium Term
Indicative cost	Low cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	TBC

Measure 7.2	Develop a 'funding catalogue' of all potential sources of funding from public, private, voluntary and other sectors
Description	Developed an improved understanding of potential FRM funding streams, considering multiple benefit initiatives such as (but not exclusive to) NFM, regeneration and blue-green infrastructure.
Benefits including multiple/wider benefits	▪ Explore opportunities for additional funding streams ▪ Multiple benefit proposals ▪ Value for money
Indicative timescale	Ongoing
Indicative cost	Existing Resources
Funding options	Revenue funding
Delivery partners	TBC

Measure 7.3	Explore partnership funding with relevant Risk Management Authorities and other sources to support schemes
Description	Partnership funding will also be explored and encouraged to attract further investment in FAS for IoACC.
Benefits including multiple/wider benefits	▪ Explore opportunities for additional funding streams ▪ Multiple benefit proposals ▪ Value for money ▪ Collaboration opportunities

Indicative timescale	Ongoing
Indicative cost	Very low cost
Funding options	Revenue funding
Delivery partners	TBC

Measure 7.4	Utilise S19 reports to guide investment.
Description	Ensure reported flood events are appropriate investigated and documented. Consider findings to inform capital and revenue investment.
Benefits including multiple/wider benefits	▪ Proactive approach to flood risk management ▪ Reduced flood risk ▪ Informed decision making
Indicative timescale	Ongoing
Indicative cost	Medium cost
Funding options	▪ Existing resources ▪ Revenue funding
Delivery partners	TBC

Objective 8 - Provide an appropriate effective and sustained response to flood and coastal erosion events

Measure 8.1	Provide appropriate and effective support and guidance to local communities, pre, during and post flood events.
Description	Support and guidance will, where appropriate, be given to communities before, during and after flood events. This may be through the media or in person and may involve sharing of and signposting to relevant information and provision of support where appropriate.
Benefits including multiple/wider benefits	▪ Improved resilience ▪ Improved knowledge of roles and responsibilities ▪ Improved preparedness
Indicative timescale	Short term
Indicative cost	Low cost
Funding options	▪ Existing resources ▪ Revenue funding

Delivery partners	TBC

Measure 8.2	Ensure there is effective co-ordination between IoACC departments and other organisations.
Description	Ensure collaboration meetings and workshops are arranged.
Benefits including multiple/wider benefits	▪ Explore opportunities for additional funding streams ▪ Multiple benefit proposals ▪ Value for money ▪ Collaboration opportunities
Indicative timescale	Ongoing
Indicative cost	Existing resources
Funding options	Revenue funding
Delivery partners	TBC

Measure 8.3	Record and investigate flood events appropriately and effectively.
Description	IoACC will record all flood incidents within the county which it is made aware of and will carry out detailed flood investigations where appropriate. All investigations will be logged with flood management system.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Improved understanding of local issues ▪ Evidence based decision making
Indicative timescale	Ongoing
Indicative cost	Existing resource
Funding options	Revenue funding
Delivery partners	TBC

Objective 9 – Use knowledge and data to inform planning decisions and policy formulation

Measure 9.1	Ensure that the planning process is properly informed by considering relevant plans and policies such as the Flood Risk Management Plan, River Basin Management Plan and Shoreline Management Plans.

Description	Use local knowledge of flood risk and known issues to inform planning process. Ensure planning decisions align with FRM policies. Provide applicant feedback where appropriate.
Benefits including multiple/wider benefits	▪ Reduce delays in development with proactive response approach. ▪ Ensure development does not increase flood risk and where appropriate reduce risk.
Indicative timescale	Ongoing
Indicative cost	Existing resource
Funding options	Revenue funding
Delivery partners	N/A

Measure 9.2	Regulate ordinary watercourses and enforce powers to maintain a free passage of flow.
Description	Ensure ordinary watercourse are appropriately managed and all works are compliant with Flood and Water Management Act.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ Improved water quality ▪ Environmental enhancement ▪ Improved local knowledge ▪ Clear understanding of roles and responsibilities
Indicative timescale	Ongoing
Indicative cost	Existing resource
Funding options	Revenue funding
Delivery partners	N/A

Measure 9.3	Ensure that all stages of the SAB process are effective and efficient.
Description	Review and improve current SAB in Anglesey.
Benefits including multiple/wider benefits	▪ Ensure development enhances environmental and is compliant with FRM legislation ▪ Improved system ▪ Clearer requirements for applicants

Indicative timescale	Short term
Indicative cost	Low cost
Funding options	▪ Revenue funding ▪ Small scale grant scheme (Welsh Government)
Delivery partners	TBC

Measure 9.4	Ensure that flood risk management is included in the formulation of planning policy.
Description	Flood risk management will be considered when shaping policies relating to land use, development and infrastructure, to minimise the impact of flooding on communities and the environment.
Benefits including multiple/wider benefits	▪ Reduced flood risk ▪ FRM alignment to planning policies ▪ Improved information and clarity for developers
Indicative timescale	Long term
Indicative cost	Low cost
Funding options	Revenue funding
Delivery partners	N/A

9. Flood Actions

9.1 Anglesey Flood Action Plan

The Flood Action Plan details actions at a range of scales; across Anglesey, within Catchment Areas and at the community level (as detailed in Section 6.2).

The Flood Action Plan is included in Appendix A.

10. Environmental Assessments

Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives, Measures and Actions presented consider the environment within the local authority area, including important designations.

The NRW Environmental assessment website provides advice for SEAs and HRAs.

Note: the SEA and HRA reporting is required at the consultation phase for the Local Strategy. The SEA requires consultation, which should happen at the same time as the Local Strategy.

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.

The full SEA is contained within a separate report which is available on the Anglesey Councils website in the Local Flood Risk Management section.

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. Named protected sites can be deleted here if not applicable to the Local Authority area.

The full HRA is contained within a separate report which is available on the Anglesey Councils website in the Local Flood Risk Management section.

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).

River Basin Management Plans describe how the WFD will be achieved, by outlining the actions and measures needed to implement the objectives of the WFD. Anglesey is located

within the Western Wales River Basin Management Plan. Table 7 demonstrates how the Objectives within this Local Strategy aim to meet the Objectives of the Western Wales RBMP and the WFD.

Table 7 – How the Objectives of the Local Strategy meet the Objectives of the Western Wales RBMP and the WFD

No	Local Strategy Objective	How the Local Strategy Objective meets the RBMP and WFD Objectives
1	To improve understanding of local flood (surface water, groundwater and ordinary watercourses) and coastal risks.	This will improve understanding of flood risk in Anglesey, considering impacts on aquatic environments.
2	To improve communication of risk.	This will provide opportunities to communicate impacts on and protection of aquatic environments as well as flood risk management.
4	To work together with other RMAs, stakeholders and the public to reduce flood and coastal risk.	This will provide opportunities to work with a range of partners including residents, businesses, landowners to enhance the natural environment including aquatic environments.
5	To reduce exposure to risk and to reduce the impacts and consequences of flooding and coastal erosion to individuals, communities, businesses and the environment.	This will provide opportunities to enhance aquatic environments whilst reducing flood risk and coastal erosion.
6	To take a sustainable and holistic approach to flood risk management balancing economic, environmental and social benefits.	This aims to explore approaches to flood risk management which include environmental as well as economic and social aspects. There are opportunities to promote Natural Flood Management (NFM), catchment wide approaches, blue-green infrastructure and to protect and enhance Anglesey's natural environment.
7	To prioritise investment to the most at risk communities and to maximise capital funding from external and internal sources.	Investment should allow prioritisation of multiple benefits including enhanced aquatic environments as well as reduced flood risk.
9	To ensure information relating to flood risk is used to inform planning decisions and policy formulation.	Planning decisions and policy should consider enhanced aquatic environments as well as reduced flood risk.

11. Monitoring Progress

This second Strategy will continue to provide the framework for IoACC' s delivery of its flood risk management responsibilities and aspirations.

The Strategy / Strategic Plan will be fixed for the duration for 6 years. The Flood Action Plan is appended to the Strategy / Strategic Plan and is a "living document". It will continue to develop as new information, expertise and resources influence the delivery of the measures and actions. The Strategy / Strategic plan will be reviewed on a regular basis to monitor progression on the implementation.

The Strategy should be reviewed in conjunction with the next review of the National Strategy and the Action Plans within this Strategy should be updated every two years, with interim progress reporting every year.

Appendix A Legislative Context

The information and links below give the legislative context for this Local Flood Risk Management Strategy.

Flood and Water Management Act 2010

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

Following Royal assent in April 2010 the Flood & Water Management Bill became an Act of Parliament. The Act reinforced the need to manage flooding in a holistic and sustainable manner and placed several new roles and responsibilities on councils such as Anglesey, which is designated as a Local Lead Flood Authority under the FWMA extending their previous responsibilities for flood risk management. The preparation of this second LFRMS is just one of the duties placed upon IoACC under this piece of legislation.

There are two key drivers behind the new legislation; one being the review into the summer 2007 floods by Sir Michael Pitt, most often referred to as the Pitt Review. The other key driver behind the Act is the EU Floods Directive which has been transposed into UK law by the Flood Risk Regulations, 2009 (revoked under the Retained EU Law Act). Both of which are summarised in the following sections:

The Pitt Review

Sir Michael Pitt carried out an independent review of national Flood and Coastal Erosion Risk Management practices after the widespread and catastrophic floods during the summer of 2007, in which over 55,000 households were affected and damages exceeded £4 billion[11]. 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. Many of the recommendations contained in the Pitt Review have been enacted through the Flood and Water Management Act.

Flood Risk Regulations 2009

These have been revoked under the Retained EU Law Act.

The Flood Risk Regulations 2009 (legislation.gov.uk)

The Flood Risk Regulations (FRR) came into force in December 2009 and transpose the EU Floods Directive into law for England and Wales. The Flood Risk Regulations require three main pieces of work:

Preliminary Flood Risk Assessment (PFRA) – This involves collecting information on past and future floods from main rivers, reservoirs, the sea, surface water, groundwater and ordinary

[11] The Costs of the summer 2007 floods in England – Environment Agency (Project: SC070039/R1) Published January 2010.

watercourses, assembling the information into a PFRA report and identifying Indicative Flood Risk Areas. This report should be reviewed on a 6 yearly basis. No Indicative 'Flood Risk Areas' have been identified on Anglesey. The Western Wales PFRA (2018) can be found on the NRW website:

NRW Western Wales River Basin District Preliminary Flood Risk Assessment Report (December 2018)

A 2017 Addendum update to the PFRA report for the Isle of Anglesey County can be found on the Isle of Anglesey County Council website:

Addendum (2017) to the PFRA for the Isle of Anglesey County Council

Flood Hazard and Flood Risk Maps – Any authorities identifying an Indicative Flood Risk Area are required to produce hazard and risk maps for those areas on a 6 yearly cycle.

Flood Risk Management Plans – The final stage is for authorities with an Indicative Flood Risk Area to produce a Flood Risk Management Plan and to review this on a 6 yearly basis.

The PFRAs have not identified any 'Flood Risk Areas' within Anglesey. Flood Risk Areas termed in the PFRA have been defined by Welsh Government guidance as an affected population greater than 5,000 people at risk. Therefore, IoACC is not required under the FRR to undertake the flood hazard and flood risk maps and flood risk management plans.

Flood Risk Management is affected by a range of other legislation, including (but not limited to) the following:

- Land Drainage Act 1991

  Land Drainage Act 1991 (legislation.gov.uk)
- Coast Protection Act 1949

  Coast Protection Act 1949 (legislation.gov.uk)
- Water Framework Directive 2000

  Water Framework Directive (europa.eu)
- Environment (Wales) Act 2016

  Environment (Wales) Act 2016 (legislation.gov.uk)
- Wellbeing of Future Generations (Wales) Act 2015
- Well-being of Future Generations (Wales) Act 2015 – The Future Generations Commissioner for Wales.
- Planning (Wales) Act 2015

  Planning (Wales) Act 2015 (legislation.gov.uk)
- The Civil Contingencies Act 2004

  Civil Contingencies Act 2004 (legislation.gov.uk)
- The Climate Change Act 2008

  Climate Change Act 2008 (legislation.gov.uk)

- The Strategic Environmental Assessment (SEA) Directive 2001

  Strategic environmental assessment (europa.eu)
- The Conservation of Habitats and Species Regulations 2017

  The Conservation of Habitats and Species Regulations 2017 (www.legislation.gov.uk)
- The Wildlife and Countryside Act 1981

  Wildlife and Countryside Act 1981 (legislation.gov.uk)
- Countryside and Rights of Way Act 2000

  Countryside and Rights of Way Act 2000 (legislation.gov.uk)
- Natural Environment and Rural Communities Act 2006

  Natural Environment and Rural Communities Act 2006 (legislation.gov.uk)
- Public Health Act 1936

  Public Health Act 1936 (legislation.gov.uk)
- Highways Act 1980

  Highways Act 1980 (legislation.gov.uk)

Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 – requirement for a Strategic Environmental Assessment (SEA)

A Strategic Environmental Assessment (SEA) is an approach used to ensure environmental issues are assessed and integrated at the earliest opportunity in the decision-making process when developing this Local Strategy.

It is 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.

As the Local Strategy is a 'statutory plan', a Strategic Environmental Assessment is needed, which will appraise the potential environmental impacts of the Local Flood Risk Management Strategy and its objectives, prior to its approval and formal adoption.

The purpose of Strategic Environmental Assessment is to provide for a high level of protection of the environment, by ensuring the integration of environmental considerations into the preparation of the Local Strategy and to contribute to the promotion of sustainable development and environmental protection.

Conservation of Habitats and Species Regulations 2017 – requirement for a Habitats Regulations Assessment (HRA)

In Wales, the Conservation of Habitats and Species Regulations (SI 1012, 2017), often known as the Habitats Regulations, implements the EU Habitats Directive (Directive (92/43/EEC) on

the Conservation of natural habitats and of wild flora and fauna) and certain elements of the Birds Directive (2009/147/EC). This legislation provides the legal framework for the protection of habitats and species of European importance in Wales and England. Regulation 9(5) of the Habitats Regulations requires that a competent authority must consider the requirements of Habitats Directive in exercising any of its functions. Article 6(3) of the Habitats Directive defines the requirements for assessment of plans and projects potentially affecting European sites.

Measures to address specific flood risk identified during the implementation of this Strategy may also require separate Habitats Regulations Assessment, depending on the measure proposed.

Appendix B RMA Functions

The following section sets out the RMA functions for flood risk management in Anglesey. Further information can be found in Section 5 of the Local Flood Risk Management Strategy.

Natural Resources Wales (NRW) Functions

Natural Resources Wales (NRW) leads on the management of the risks of flooding from main rivers and the sea. However, in recognition of the links between coastal flooding and coastal erosion, particularly in terms of consequences, and as an objective of the FWMA, NRW has operational responsibilities in relation to coastal erosion as well as operational responsibilities for flooding from rivers and the sea. NRW also has a wider oversight role for all flood and coastal erosion risk management in Wales. As part of their oversight role the NRW lead on the provision of technical advice and support to the other Risk Management Authorities. They are the single point of contact for enquiries and information on flood risk.

The Flood and Water Management Act 2010 places several statutory duties on NRW including:

- Reporting to the Minister on flood and coastal erosion risk in Wales including the application of the National Strategy; and
- The establishment of Regional Flood and Coastal Committees.

NRW is the sole Risk Management Authority charged with monitoring and reporting on the National Strategy's implementation. In undertaking this role, they will:

- Collect data on progress from Risk Management Authorities using existing avenues wherever possible;
- Report factual information to Welsh Government; and
- As requested, provide interpretive advice to the Welsh Government.

It will be for the Welsh Government to determine what, if any, action should be taken if the reports from NRW suggest the National Strategy is not being implemented or that actions being taken are increasing levels of risk.

In addition to their statutory duties, NRW has a number of what are called permissive powers. These are powers that allow them to do something, but do not compel them to and include:

- Powers to request information;
- The ability to raise levies for local flood risk management works, via the Regional Flood and Coastal Committees;
- Powers to designate certain structures or features that affect flood or coastal erosion risk;
- The expansion of powers to undertake works to include broader risk management actions; and

- The ability to cause flooding or coastal erosion under certain conditions.

This allocation of responsibilities is also consistent with the NRW's role in relation to the Flood Risk Regulations 2009 (revoked under the Retained EU Law Act), which allocates specific responsibility for conducting assessments in relation to mapping the risks of flooding from main rivers, the sea and reservoirs, as well as providing guidance to Local Authorities on these matters for flooding from other sources.

Under the Regulations NRW also carries out an assessment and coordination role at a national level.

Coastal Erosion Risk Management Authority

NRW is a coastal erosion risk management authority with the power to protect land against coastal erosion and to control third party activities on the coast. This includes the construction of private defences or the removal of beach material. Since October 2011 Lead Local Flood Authorities have required NRW approval to undertake coastal protection works.

Emergency Planning

NRW contributes to the development of multi-agency flood plans, which are developed by Local Resilience Forums (LRFs) to help the organisations involved in responding to a flood to work better together. They also contribute to the Wales Flood Response Framework (Wales) which explains the generic response to flooding in Wales.

They are responsible for providing advice to planning authorities in development and flood risk; providing fluvial and coastal flood warnings; monitoring flood and coastal erosion risks and supporting emergency responders when floods occur.

They work with the Met Office to provide forecasts and warnings of flooding from rivers and the sea in England and Wales.

NRW and other asset operating authorities also have a role in proactive operational management of their assets and systems to reduce risk during a flood incident.

Main Rivers

Main rivers are a statutory type of watercourse. A main river is defined as a watercourse marked as such on a main river map designated by DEFRA (Under the Water Resources Act 1991) and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. NRW has powers to carry out flood defence works apply to main rivers only. The overall responsibility for maintenance of Main Rivers, however, lies with the riparian owner.

NRW can also bring forward flood defence schemes through the Regional Flood and Coastal Committees, and it will work with Lead Local Flood Authorities and local communities to shape schemes which respond to local priorities.

Coastal Flooding

NRW is the lead organisation responsible for all flood and erosion risk management around the coastline of Wales, including tidal flood risk. NRW leads the country in developing a coastal management plan that works at local, regional and national level, with partner organisations, including local authorities, putting agreed plans into practical action.

NRW also has a regulatory role in consenting works carried out by others in, or adjacent to

water courses and sea/tidal defences to ensure that they have regard to flood risk and do not cause unnecessary environmental damage or impacts.

Reservoirs

NRW enforces the Reservoirs Act 1975, which is the safety legislation for reservoirs in the United Kingdom. NRW is responsible as the Enforcement Authority for reservoirs that have a storage capacity greater than 10,000m³ (above the natural level of the surrounding land).

As the Enforcement Authority NRW are responsible for:

- Maintaining a register of reservoirs, and making this information available to the public;
- Ensuring that reservoirs are designed and constructed using the correct design standards;
- Ensuring that the owner (undertaker) has appointed an engineer to inspect the reservoir periodically;
- Ensuring that the owner commissions regular inspections of the reservoir by an inspecting engineer;
- Ensuring that the owner carries out essential works required in the 'interests of safety' as soon as practicable under the supervision of a qualified civil engineer (from an inspecting engineer panel);
- Influencing, warning, cautioning and ultimately prosecuting non-compliant owners;
- Commissioning construction engineers, supervising engineers, inspecting engineers and essential works required in the 'interests of safety' in the event of non-compliance and recouping costs incurred from the owner;
- Producing a biennial report about our enforcement and operational activities to the Department for Environment, Food and Rural Affairs (DEFRA) and to the Welsh Government; and
- Acting in an emergency if the owner fails to take appropriate action.

NRW has produced reservoir flood maps which show the effects on the downstream catchment of a dam breach for approximately 2000 large, raised reservoirs which they regulate under the Reservoirs Act 1975. These have been sent to reservoir owners and the relevant local authorities.

Manager of the Malltraeth Marsh Drainage District

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. Natural Resources Wales's primary role with regard to drainage districts is to manage water levels and reduce flood risk through the management and maintenance of drainage channels, ordinary watercourses, pumping stations and control structures.

Routine maintenance activities typically take place annually, subject to economic justification. Our programme is agreed following consultation with our own fisheries, recreation,

biodiversity and conservation teams and with the Drainage District Advisory Groups. This ensures that the natural environment is maintained and, where possible, improved as a result of our maintenance work.

Dŵr Cymru Welsh Water Functions

Dŵr Cymru – Welsh Water (DCWW) is the only company serving Anglesey providing both water supply and wastewater services. DCWW is responsible not only for the provision of water, but also for making appropriate arrangements for the drainage of foul water, the treatment of waste, surface water sewers and combined sewers. They have primary responsibility for floods from water and sewerage systems, which can include sewer flooding, burst pipes or water mains or floods causes by system failures.

The Flood and Water Management Act 2010 places several statutory duties on water and sewerage companies including:

- A duty to act consistently with the National Strategy;
- A duty to have regard to the content of the relevant Local Strategy; and
- A duty to co-operate with other relevant authorities in the exercise of their flood and coastal erosion risk management functions.

Water and sewerage companies often hold valuable information which could greatly aid the understanding of flood risks faced by communities across Wales.

Flood Risk Management

Water and sewage companies have the following responsibilities around flood risk management:

- Respond to flooding incidents involving their assets;
- Produce reports of the flood incidents;
- Maintenance of a register of properties at risk of flooding due to a hydraulic overload in the sewerage network (DG5 register);
- Undertake capacity improvements to alleviate sewer flooding problems on the DG5 register;
- Provide, maintain and operate systems of public sewers and works for the purpose of effectually draining an area;
- May be subject to scrutiny from lead local flood authorities' democratic processes;
- Have a duty for the adoption of private sewers; and
- Statutory consultee to the SAB when the drainage system is proposed to communicate with the public sewer.

Reducing Sewer Flooding

DCWW is responsible for flooding from their foul and surface water sewers, and from burst water mains.

When sewage escapes from a pipe, through a manhole, drain or by backing up in the toilet this is known as sewage flooding. Sewage flooding can be caused by; blockages in the sewer pipe caused by root growth, a collapse or misuse, or vandalism; equipment failure, for

example the pumps at a pumping station not operating due to electrical or other problems; and when the sewer is overloaded either because it is too small to deal with the amount of sewage in it (possibly because of increased development in the area) or during storm conditions when too much rainwater from roads and fields ends up in the sewer. The cause may be some distance away from where the flooding happens.

The majority of flooding is reported into the DCWW call centre on 0800 052 0130 (The lines are open 24 hours a day, 7 days a week). The call centre agent will check that the flooding incident involves their assets. If it does not, they will redirect the call if necessary. If assets are identified a job is raised and dispatched to field teams. The advisors will tell you when you can expect the field team to arrive at your property. This will usually be within 3 hours. An initial clean-up will be undertaken, and they will return later if necessary. Priority is given to frequent internal flooding problems where a cost beneficial and sustainable solution is available.

If flooding is present or evidence of flooding present details will be recorded on the 'DG5 Form' and investigated as appropriate which may lead to recording on the DG5 Register. The DG5 register is a register of properties and areas that have suffered or are likely to suffer flooding from public foul, combined or surface water sewers due to overloading of the sewerage system. Investment in the alleviation of sewer flooding is closely allied to the DG5 register.

System of Public Sewers and Works

An essential flood risk management duty is defined under Section 94 of the Water Industry Act 1991, which states that Water and Sewerage Companies have a duty to provide, maintain and operate systems of public sewers and works for the purpose of effectually draining their area. They also have a duty under the same Act relating to premises for 'domestic sewerage purposes.' In terms of wastewater this is taken to mean the ordinary contents of lavatories and water which has been used for bathing, washing and cooking purposes and for surface water removal from yards and roofs. However, there is no legal duty or responsibility relating to highway drainage, land drainage and watercourses, with the exception that Water and Sewerage Companies can accept highway drainage by agreement with a highway authority.

Since the commencement of Section 16 of Schedule 3 of the FWMA 2010, connection to a public sewer is only permitted only after the drainage Strategy associated with a new development is approved by the SuDS Approval Body (to which the DCWW is a statutory consultee). This will only apply to surface water; the 'right to connect' will still apply to foul water.

Reservoir Undertaker

DCWW owns many reservoirs in Wales and as such they are responsible for their maintenance as a reservoir undertaker. All undertakers with reservoirs over 10,000 m^3 (above the natural level of the surrounding land) must register their reservoirs with NRW as they are subject to regulation and all undertakers must report any flood incidents.

UK Highways A55 Ltd

UK Highways A55 Ltd is responsible for maintenance and operation of the A55 on Anglesey on behalf of the Welsh Government.

Appendix C Public Consultation Outcomes

Public consultation responses to be included once consultation complete.

Appendix D Glossary of Terms used within this Local Strategy

Term	Definition
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).
Asset Register	Register of structures or features which are considered to have an effect on flood risk.
Bill	A proposal for a new law or a proposal to change an existing law that is presented for debate before Parliament.
Biodiversity	Biological diversity. The variety of all living things in a particular area, including plants, animals, bacteria, and fungi.
Business Justification Case (BJC)	The BJC is 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 Erosion	The wearing away of coastline, usually by wind and/or wave action.
Coastal Erosion Risk	Measures the significance of potential coastal erosion in terms of likelihood and impact.
Coastal Erosion Risk Management	Anything done for the purpose of analysing, assessing and reducing a risk of the wearing away of coastline.
Coastal Flooding	Occurs when coastal defences are unable to contain the normal predicted high tides that can cause flooding, possibly when a high tide combines with a storm surge (created by high winds or very low atmospheric pressure).
Coastal Squeeze	Where the coast is protected by engineering structures, the rising sea level results in a steepening of the intertidal profile, known as coastal squeeze.
Consenting	Process of obtaining permission to add/amend structures in/near a watercourse or flood defence structure.
Communities at Risk Register (CaRR)	CaRR provides an objective means of identifying risk and prioritising flood risk management activities at a Wales wide community level.

Term	Definition
Critical National Infrastructure	Infrastructure that supplies essential services, e.g. water, energy, communications, transport etc.
Culvert	A covered structure under road, embankment etc, to direct the flow of water.
Defences	A structure that is used to reduce the probability of floodwater or coastal erosion affecting a particular area.
Department for Environment, Food and Rural Affairs (DEFRA)	A ministerial department of the Government of the United Kingdom. Some of DEFRAs functions are devolved to Welsh Government.
Deposition	The process whereby sediment is placed on the seabed, shoreline, river bed or flood plain.
Dŵr Cymru Welsh Water (DCWW)	Not-for-profit company that supplies water, sewerage and trade effluent services in Wales.
FCERM Business Case Guidance	The Welsh Government guidance on preparing a business case for FCERM capital funding, issued to Local Authorities and NRW and published by the Welsh Government
Flood & Coastal Erosion Risk Management (FCERM)	The management of all aspects of flood and coastal erosion risk through understanding risk (probability and consequence) and seeking to modify these factors to reduce its impacts
Flood	Any case where land not normally covered with water becomes covered by water.
Flood and Water Management Act 2010	An Act of Parliament updating and amending legislation to address the threat of flooding and water scarcity
Flood Hazard	Defined as the produce of the depth and velocity of floodwaters
Flood Risk	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 Management	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

Term	Definition
Flood Risk Regulations 2009	*These have been revoked under the Retained EU Law Act.* 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.
Flood Warnings	A free NRW service that provides flood warnings direct to you by phone call, text or email. It is necessary to sign up to this service.
Fluvial Flooding	Flooding from rivers including ordinary watercourses and main rivers.
Full Business Case (FBC)	The completed business case and third stage in the development of a business case for a significant project, which identified the most economically advantageous option following procurement, confirms affordability and puts in place the detailed arrangements for successful delivery.
Green Infrastructure	Utilises the natural properties of native vegetation to provide flood risk management solutions. 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.
Habitat 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.
Local Development Plan (LDP)	Sets out each local planning authority's vision for future development and land use in an area, covering topics such as housing, employment, and restrictions on development.
Local Flood Risk	Defined within the Flood and Water Management Act 2010 as including surface runoff, groundwater and ordinary watercourses.
Local Flood Risk Management Strategy (LFRMS)	Required in relation to Wales by Section 10 of the Flood and Water Management Act 2010 Local; Flood Risk Strategies are to be prepared by Lead Local Flood Authorities and must set out how they will manage local flood risks within their areas.
Lead Local Flood Authority (LLFA)	The County Council or the County Borough Council for the area (Local Authority).
Local Resilience Forum (LRF)	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

Term	Definition
	NRW has responsibilities and powers.
National Flood Forum	A charity to help, support and represent people at risk of flooding.
Natural Flood Management (NFM)	A range of interventions to restore or mimic the natural functions of rivers and their catchments. Aims to store water and slow the flow of water, reducing flood risk downstream.
Natural Resources Wales (NRW)	The largest Welsh Government Sponsored Body. Its core purpose is the sustainable management of natural resources in Wales.
Net Zero	The amount of greenhouse gases (e.g. carbon dioxide) added to the atmosphere is not more than is removed.
North Wales Resilience Forum (NWRF)	Made up of strategic level managers of each of the Category 1 responders (Local Authority, Emergency Services, and Local Health Boards) to ensure that there is an appropriate level of preparedness to enable an effective multi-agency response to an emergency.
Ordinary Watercourse	All watercourses that are not designated Main River, and which are the responsibility of riparian landowners.
Outline Business Case (OBC)	The second stage in the development of a business case for a project, which identifies the preferred option based on best public value for money and outlines the arrangement 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).
Preliminary Flood Risk Assessment (PFRA)	A high-level assessment of local flood risk, as required by the Flood Risk Regulations 2009
Recovery	The process of rebuilding, restoring and rehabilitating the community following an emergency.
Reservoir	An artificial lake where water is collected and stored until needed. Reservoirs can be used for irrigation, recreation, providing water for municipal needs, hydroelectric power or controlling water flow.
Resilience	The ability of the community, services, area or infrastructure to avoid being flooded, lost to erosion or to withstand the consequences of flooding or erosion taking place.
Riparian	Relating to or located on the banks of a watercourse.
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

Term	Definition
	these to provide an overall assessment of risk to inform further decisions and actions.
Risk Management	Anything done for the purpose of analysing, assessing and reducing a risk.
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 for which there is no unitary authority, an IDB for an internal drainage district that is wholly or mainly in Wales and a water company that exercises functions in relation to an area in Wales.
Risk Management Schemes	A range of actions to reduce flood frequency and/or the consequences of flooding to acceptable or agreed levels.
River Basin Management Plan (RBMP)	Under the Water Framework Directive, a management plan is required for each River Basin District. The RBMP describes how waters are managed.
River flooding	Occurs when water levels in a channel overwhelms the capacity of the channel.
Royal Assent	Method by which the constitutional monarch formally approves an act of parliament.
Senedd Cymru	Welsh Parliament
Sewer	An artificial conduit, usually underground, for carrying off sewage (foul sewer) or rainwater (storm or surface water sewer) or both (combined sewer).
Shoreline Management Plan (SMP)	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 Environmental Assessment (SEA)	An SEA is a system of incorporating environmental considerations into policies, plans, programmes and strategies.
Strategic Flood Consequences Assessment (SFCA)	A broad scale assessment of flood risk carried out by a Local Authority which provides 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 project, which makes the strategic case for change and appraises the available options.
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.

Term	Definition
Surface Water Runoff	This occurs when the rate of rainfall exceeds the rate that water can infiltrate the round or soil and flows over ground.
Sustainable Drainage Systems (SuDS)	Approach to surface water management which helps to deal with excesses of water by mimicking natural drainage processes and patterns.
SuDS Approval Body (SAB)	A statutory function under the FWMA for the Local Authority to deliver to ensure that drainage proposals for all new development of more than a single dwelling of over 100m^2 of construction area is fit for purpose, designed and built in accordance with the National Standards for Sustainable Drainage published by Welsh Ministers
TAN 14: Coastal Planning	Technical Advice Note 14 supports Planning Policy Wales and covers all aspects of planning for new development and the coastal zone.
TAN 15: Development & Flood Risk	Technical Advice Note 15 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.
Watercourse	A channel natural or otherwise along which water flows.
Water Company	A company which holds an appointment under Chapter 1 of Part 2 of the Water industry Act 1991 or a licence under Chapter 1A of Part 2 of that Act.
Water Framework Directive (WFD)	The WFD imposes legal requirements to protect and improve the water environment (including our rivers, coasts, estuaries, lakes, ground waters and canals).
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.
Welsh Risk Management Authorities	Risk Management Authorities as defined in Section 27 of the Flood and Water Management Act 2010.
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

Appendix E FRMP Outputs

Receptors at Risk - Flood Risk from the Sea

Risk Receptor	High Risk (chance of flooding greater than 1 in 30 each year)	Medium Risk (chance of flooding between 1 in 30 and 1 in 200 each year)	Low Risk (chance of flooding between 1 in 200 and 1 in 1000 each year)
Residential properties at risk of internal flooding (depth >0.2m)	768	368	522
Non-residential Properties (n)	68	23	26
Essential Services (n)	16	8	0
Primary/Trunk Roads (km)	6.1	2.5	2.2
Minor roads (km)	37.1	6.2	5.5
Main Line Railways (km)	1.0	1.2	1.5
Agricultural Land - Grades 1, 2 and 3 (ha)	2362.8	131.4	121.9
Special Areas of Conservation (SAC) (ha)	1326.6	30.9	18.5
Special Protection Areas (SPA) (ha)	2372.6	3.6	4.0
Ramsar Sites (ha)	0	0	0
Sites of Special Scientific Interest (SSSI) (ha)	3556.7	67.3	36.7
Registered Parks and Gardens (ha)	5.3	0.5	0.6
Scheduled Ancient Monuments (SAM) (ha)	43.9	0.8	0.6

Receptors at Risk - Flood Risk from Rivers

Risk Receptor	High Risk (chance of flooding greater than 1 in 30 each year)	Medium Risk (chance of flooding between 1 in 30 and 1 in 100 each year)	Low Risk (chance of flooding between 1 in 100 and 1 in 1000 each year)
Residential properties at risk of internal flooding (depth >0.2m)	323	63	190
Non-residential Properties (n)	17	12	43
Essential Services (n)	5	3	10
Primary/Trunk Roads (km)	1.7	1.5	3.3
Minor roads (km)	7.4	4.1	11.4
Main Line Railways (km)	1.2	1.0	0.9
Agricultural Land - Grades 1, 2 and 3 (ha)	1311.8	352.9	659.1
Special Areas of Conservation (SAC) (ha)	75.8	10.5	25.9
Special Protection Areas (SPA) (ha)	28.9	3.0	8.9
Ramsar Sites (ha)	8.1	2.6	3.4
Sites of Special Scientific Interest (SSSI) (ha)	599.8	279.8	509.2
Registered Parks and Gardens (ha)	0.6	0.1	0.3
Scheduled Ancient Monuments (SAM) (ha)	7.4	1.3	1.9

Receptors at Risk - Flood Risk from Surface Water and Small Watercourses

Risk Receptor	High Risk (chance of flooding greater than 1 in 30 each year)	Medium Risk (chance of flooding between 1 in 30 and 1 in 100 each year)	Low Risk (chance of flooding between 1 in 100 and 1 in 1000 each year)
Residential properties at risk of internal flooding (depth >0.2m)	147	23	129
Non-residential Properties (n)	32	51	128
Essential Services (n)	14	15	28
Primary/Trunk Roads (km)	4.7	2.8	7.6
Minor roads (km)	16.4	12.0	41.9
Main Line Railways (km)	3.7	1.7	5.4
Agricultural Land - Grades 1, 2 and 3 (ha)	1199.8	691.1	1464.3
Special Areas of Conservation (SAC) (ha)	27.6	25.4	72.7
Special Protection Areas (SPA) (ha)	18.6	16.9	57.8
Ramsar Sites (ha)	10.6	10.2	23.2
Sites of Special Scientific Interest (SSSI) (ha)	119.3	127.9	238.1
Registered Parks and Gardens (ha)	5.4	2.1	5.5
Scheduled Ancient Monuments (SAM) (ha)	2.3	1.0	2.2

Flood Risk from Sea

CONTAINS OS DATA © CROWN COPYRIGHT (2023)
COMMUNITIES AT RISK REGISTER (CaRR) AREA OUTLINES FROM DATAMAPWALES (2023)

Coastal Flood Risk Areas in Anglesey

Coastal Flood Risk Areas in Anglesey

Flood Risk Area	Communities (CaRR)	Area (Ha)
A	Holyhead / Caergybi Penrhos	1711
B	Llanfwrog Llanfachraeth Llanfigael	1726
C	Rhydwyn Llanfair-yng-Nghornwy Llanfaethlu Tregele	3336
D	Cemaes	291
E	Llanbadrig Burwen Porthllechog Amlwch Pengorffwysfa	2459
F	City Dulas Dulas Brynrefail	1516
G	Marian-glas Moelfre	499
H	Tynygongl Pentraeth Benllech Red Wharf Bay Llanddona	2660
I	Menai Bridge Llandegfan Beaumaris Llanfaes Penmon Llangoed	3300
J	Brynsiencyn Llanedwen Llanfair Pwllgwyngyll	2777
K	Niwbwrch Dwyran	3240
L	Bodorgan Hermon Trefdraeth Malltraeth Cerrigceinwen Llangaffo Llangristiolus Llangefni	7242

Flood Risk Area	Communities (CaRR)	Area (Ha)
	Pentre Berw Ceint	
M	Aberffraw	1270
N	Rhosneigr Newlands Park Dyffryn Llanfair-yn-neubwll Caergeiliog Llanynghenedl Llanfihangel yn Nhowyn Llanfaelog Capel Gwyn Bryn Du Bryngwran Four Mile Bridge Bodior	6355
O	Trearddur Rhoscolyn	1124

Risk Receptors at Risk of Flooding from the Sea during the High Risk Event (Coastal Flood Risk Areas)

	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Residential properties at risk of internal flooding (depth >0.2m)	125	5	0	8	1	2	4	35	159	11	44	58	6	210	100
Non-residential Properties (n)	0	0	0	0	0	0	0	0	17	2	5	6	0	35	3
Essential Services (n)	0	0	0	0	0	0	0	0	3	1	5	2	0	3	2
Primary/Trunk Roads (km)	0.1	0.01	0	0	0	0.001	0.02	0	1.6	0.02	0.8	1.4	0.02	2.2	0
Minor roads (km)	0.8	0.8	0.8	0.01	0.04	0.3	0	2.6	2.3	0.6	0.4	12.6	0.6	7.9	2.9
Main Line Railways (km)	0.02	0	0	0	0	0	0	0	0	0	0	0.7	0	0.3	0
Agricultural Land - Grades 1, 2 and 3 (ha)	17.5	123.3	24.5	1.1	0.7	38.3	3.8	143.9	33.2	21.6	293.2	1204.3	9.9	385.8	57.6
Special Areas of Conservation (SAC) (ha)	17.6	0.9	39.8	0.4	1.8	0.2	0.4	13.2	88.1	3.0	897.4	201.4	37.4	0	7.8
Special Protection Areas (SPA) (ha)	128.3	210.5	145.0	13.8	39.3	154.9	40.6	525.0	29.1	0	260.1	203.9	67.7	483.8	65.5

	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI) (ha)	75.6	195.7	45.1	0.3	3.9	28.6	3.5	25.4	186.4	3.0	905.7	1550.1	46.5	403.8	50.4
Registered Parks and Gardens (ha)	0	0	0.003	0	0	0	0	0	0.03	2.9	0	2.4	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.2	0.02	0	0	0.7	0.4	1.2	2.5	14.4	0.9	0	1.8	0.02	7.7	0.2

Risk Receptors at Risk of Flooding from the Sea during the Medium Risk Event (Coastal Flood Risk Areas)

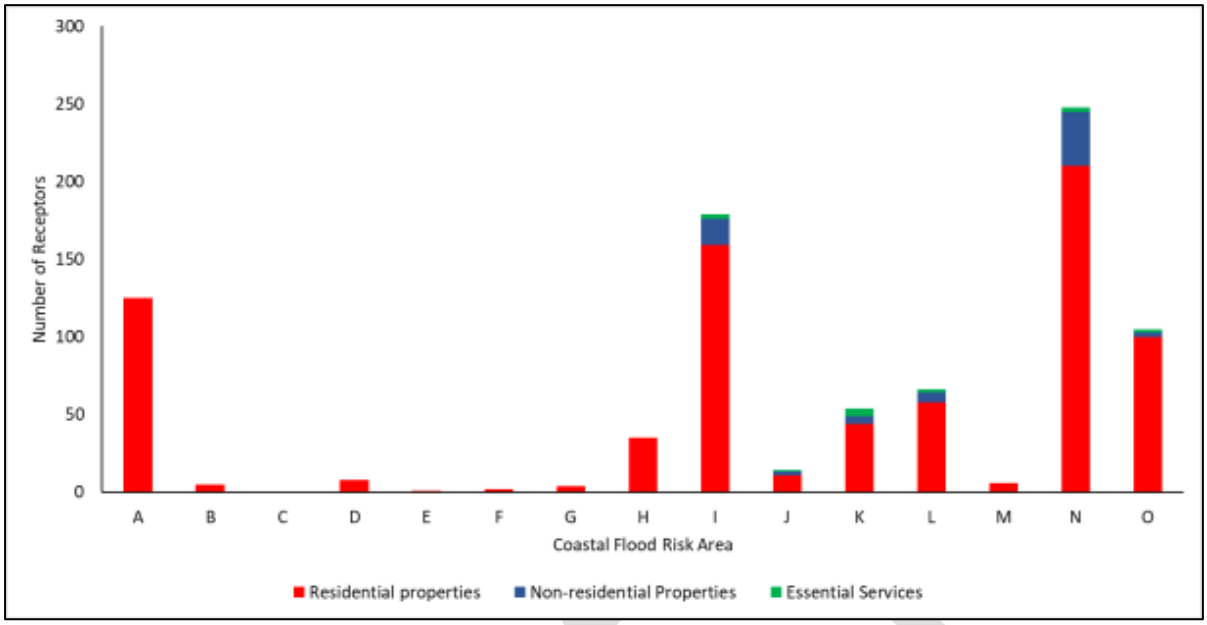
	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Residential properties at risk of internal flooding (depth >0.2m)	107	0	0	3	0	0	1	6	17	0	20	2	3	167	42
Non-residential Properties (n)	7	0	0	0	0	0	0	0	12	1	0	0	0	2	1
Essential Services (n)	2	0	0	0	0	0	0	0	5	0	0	0	0	1	0
Primary/Trunk Roads (km)	0.8	0.002	0	0	0	0	0.02	0	0.3	0.001	0.3	0.6	0.002	0.5	0
Minor roads (km)	1.4	0.3	0.1	0	0.01	0.03	0.004	0.5	0.8	0.04	0.7	0.3	0.1	1.0	0.7
Main Line Railways (km)	0.4	0	0	0	0	0	0	0	0	0	0	0.5	0	0.4	0
Agricultural Land - Grades 1, 2 and 3 (ha)	1.6	15.5	2.8	0.04	0.02	1.8	0.2	6.7	3.4	2.5	21.1	21.5	2.3	44.8	6.7
Special Areas of Conservation (SAC) (ha)	0.4	0	0.7	0	0.001	0	0	0.1	0.03	0.01	17.6	0.4	11.4	0	0.2

	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Special Protection Areas (SPA) (ha)	0.5	0.005	0.9	0.01	0.1	0.02	0.01	0.03	0.1	0	0	0.1	0.2	0.5	1.0
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI) (ha)	0.8	0.6	0.9	0.01	0.1	0.5	0.01	0.2	1.0	0.01	18.1	14.6	1.4	27.4	1.6
Registered Parks and Gardens (ha)	0	0	0.01	0	0	0	0	0	0.01	0.4	0	0.1	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.02	0.002	0	0	0.03	0.002	0.003	0	0.3	0	0	0.1	0	0.4	0.01

Risk Receptors at Risk of Flooding from the Sea during the Low Risk Event (Coastal Flood Risk Areas)

	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Residential properties at risk of internal flooding (depth >0.2m)	125	1	0	4	0	0	2	11	54	1	27	58	5	187	47
Non-residential Properties (n)	3	0	0	0	0	0	0	0	18	1	0	0	0	0	4
Essential Services (n)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Primary/Trunk Roads (km)	0.6	0	0	0	0	0	0.01	0	0.1	0	0.2	0.9	0	0.4	0
Minor roads (km)	1.3	0.6	0.1	0	0.01	0.02	0.01	0.4	0.7	0.1	0.8	0.2	0.2	0.7	0.4
Main Line Railways (km)	0.1	0	0	0	0	0	0	0	0	0	0	1.0	0	0.4	0
Agricultural Land - Grades 1, 2 and 3 (ha)	1.6	25.2	2.1	0.03	0.01	1.6	0.1	4.9	3.5	2.0	21.1	14.4	2.0	37.1	6.0
Special Areas of Conservation (SAC) (ha)	0.3	0	0.5	0	0.0001	0	0	0.04	0.02	0.004	16.0	0.3	1.2	0	0.2

	Coastal Flood Risk Area														
Risk Receptor	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
Special Protection Areas (SPA) (ha)	0.4	0.002	0.6	0.01	0.1	0.01	0.01	0.02	0.1	0	0	0.1	0.1	0.4	2.1
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI) (ha)	0.8	0.6	0.6	0.004	0.1	0.3	0.01	0.1	1.7	0.01	16.2	7.6	1.4	4.7	2.3
Registered Parks and Gardens (ha)	0	0	0.004	0	0	0	0	0	0.01	0.4	0	0.1	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.02	0.0004	0	0	0.03	0.001	0.004	0	0.05	0	0	0.1	0.0001	0.4	0.01



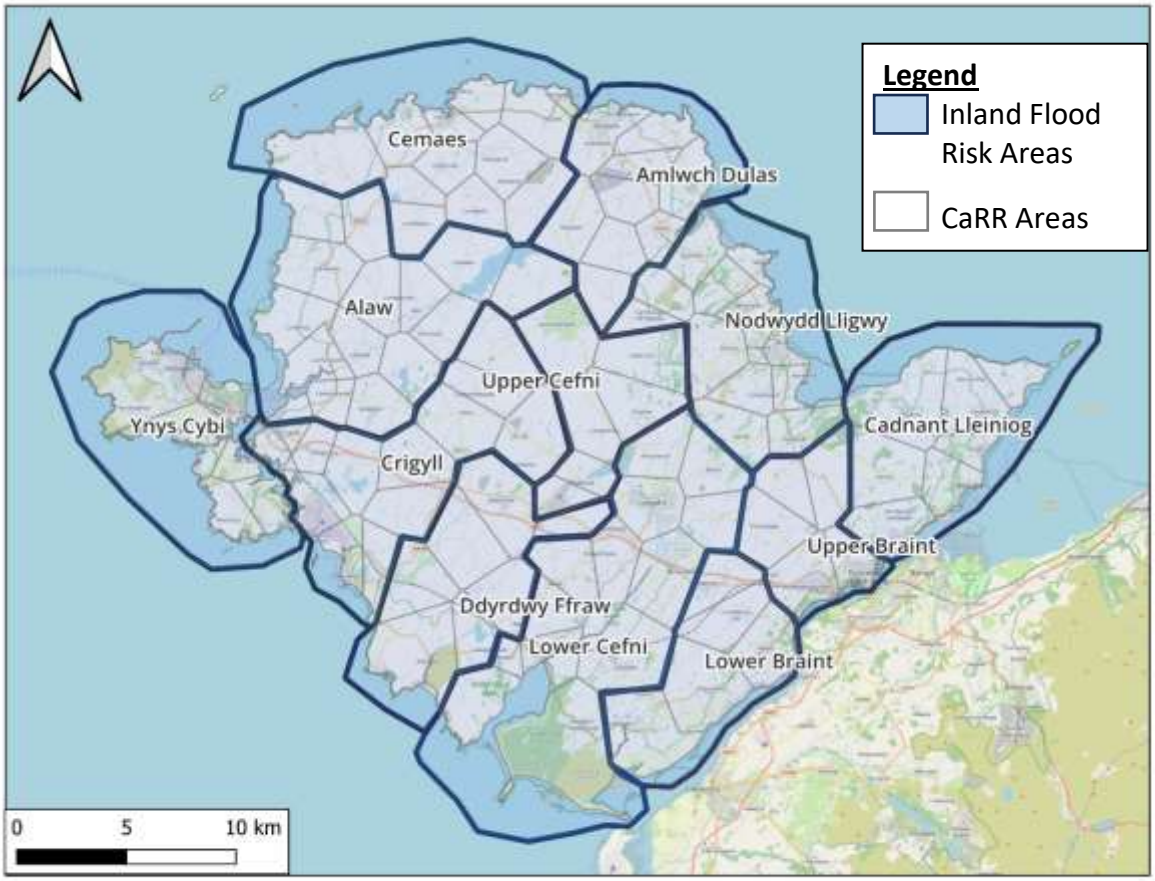
Risk Receptors (Residential Properties, Non-Residential Properties and Essential Services) at Risk of Flooding from the Sea during the High Risk Event (Coastal Flood Risk Areas)

Analysis of Flood Risk from the Sea (Coastal FRAs).

Coastal FRA	Flood Risk	CaRR areas most at risk
A	▪ High number of residential properties at risk in all events ▪ High number of non-residential properties at risk in the medium risk event	Holyhead Holyhead
H	▪ Moderate number of residential properties at risk in the high-risk event	Red Wharf Bay
I	▪ High number of residential properties at risk in the high-risk event ▪ Moderate number of residential properties at risk in the low-risk event ▪ Moderate number of non-residential properties at risk in the high-risk event ▪ High number of non-residential properties at risk in the medium and low risk events ▪ High number of Essential Services at risk in the medium risk event	Beaumaris, Menai Bridge Beaumaris Beaumaris Beaumaris Beaumaris
K	▪ Moderate number of residential properties at risk in the high and low risk events ▪ High number of essential services at risk in the high-risk event	Dwyran Dwyran

L	▪ Moderate number of residential properties at risk in the high and low risk events ▪ High length of minor roads at risk in the high-risk event ▪ Highest risk to railways in the high-risk event	Malltraeth Mainly Malltraeth and Llangaffo Pentre Berw
N	▪ High number of residential properties at risk in all events ▪ High number of non-residential properties at risk in the high-risk event ▪ High length of minor roads at risk in the high-risk event	Dyffryn Dyffryn Dyffryn
O	▪ Moderate number of residential properties at risk in all events	Trearddur

Flood Risk from Rivers and Surface Water and Small Watercourses



Inland Flood Risk Areas in Anglesey

Inland Flood Risk Areas in Anglesey

Inland Flood Risk Area	Communities (CaRR)	Area (Ha)
Ynys Cybi	Holyhead / Caergybi Trearddur Rhoscolyn Penrhos Four Mile Bridge Bodior	3491
Alaw	Rhydwyn Llanfaethlu Llanfwrog Llanfachraeth Newlands Park Llanynghenedl Bodedern Pen-llyn Llantrisant Elim Llanddeusant Llanrhyddlad Llanfigael Llanbabo Ceidio	9208
Cemaes	Llanfair-yng-nghornwy Tregele Cemaes Llanbadrig Burwen Porthllechog Bodewryd Rhosgoch Carreglefn Llanfechell Mynydd Mechell Llanfflewyn	6698
Amlwch Dulas	Amlwch Pengorffwysfa Penysarn Dulas Gadfa Rhosybol Capel Parc City Dulas Llandyfrydog	4902
Nodwydd Lligwy	Brynrefail Mynydd Bodafon	5598

Inland Flood Risk Area	Communities (CaRR)	Area (Ha)
	Maenaddwyn Llanallgo Brynteg Moelfre Marian-glas Tynygongl Llanbedrgoch Llanddyfnan Pentraeth Red Wharf Bay Benllech	
Cadnant Lleiniog	Llanddona Llansadwrn Llandegfan Beaumaris Llanfaes Penmon Llangoed	5118
Upper Braint	Pen-y-garnedd Rhoscefnhir Penmynydd Llanfair Pwllgwyngyll Menai Bridge	3419
Lower Braint	Gaerwen Llanddaniel Fab Llanedwen Brynsiencyn Dwyran	4481
Lower Cefni	Niwbwrch Llangaffo Pentre Berw Ceint Talwrn Rhosmeirch Llangefni Llangristiolus Cerrigceinwen Trefdraeth Malltraeth Hermon Bodorgan	10670
Ddyrdwy Ffraw	Aberffraw Llangadwaladr Bethel Mona Gwalchmai	5866

Inland Flood Risk Area	Communities (CaRR)	Area (Ha)
	Dothan Bryn Du	
Crigyll	Dyffryn Caergeiliog Llanfihangel yn Nhowyn Bryngwran Trefor Llechgynfarwy Carmel Llynfaes Capel Gwyn Llanfaelog Rhosneigr Llanfair-yn-neubwll	7617
Upper Cefni	Llanerchymedd Four Mile Bridge Tregaian Llangwyllog Bodffordd Heneglwys	4321

Risk Receptors at Risk of Flooding from Rivers during the High Risk Event (Inland Flood Risk Areas)

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	21	9	34	58	52	21	18	36	44	9	20	1
Non-residential Properties (n)	0	0	1	3	5	0	0	1	5	0	1	1
Essential Services (n)	0	0	1	0	2	0	0	1	0	0	1	0
Primary/Trunk Roads (km)	0	0.02	0	0.01	0.2	0	0.7	0.3	0.1	0.1	0.4	0
Minor roads (km)	0.01	0.6	0.2	0.9	1.1	0.7	0.2	0.3	1.0	0.7	1.3	0.4
Main Line Railways (km)	0	0.01	0	0.2	0	0	0.001	0	0.8	0.01	0.1	0.1
Agricultural Land - Grades 1, 2 and 3 (ha)	0.3	204.5	47.0	57.7	57.2	28.8	124.2	84.2	280.3	106.9	245.0	75.6
Special Areas of Conservation (SAC) (ha)	0	0.01	0	0.001	12.1	4.6	0	0	8.5	45.0	0.01	5.6

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Special Protection Areas (SPA) (ha)	0.3	5.7	0.02	0.1	16.1	0	0	0	0.01	0.3	6.5	0
Ramsar Sites (ha)	0	0	0	0	1.6	0	0	0	0.9	0	0	5.6
Sites of Special Scientific Interest (SSSI) (ha)	0.2	136.8	9.4	9.7	12.9	14.1	0.6	0	317.6	56.4	36.4	5.6
Registered Parks and Gardens (ha)	0	0	0.1	0	0	0	0.5	0	0	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0	0.02	0	0.0002	0.05	6.8	0	0.1	0.1	0.01	0.2	0

Risk Receptors at Risk of Flooding from Rivers during the Medium Risk Event (Inland Flood Risk Areas)

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	0	3	9	5	3	0	2	10	26	2	2	1
Non-residential Properties (n)	0	0	0	3	2	0	0	0	7	0	0	0
Essential Services (n)	0	0	0	0	2	0	0	0	1	0	0	0
Primary/Trunk Roads (km)	0	0.01	0	0	0.01	0	1.1	0.1	0.01	0.01	0.2	0
Minor roads (km)	0.02	0.3	0.3	0.4	0.3	0.05	0.1	0.4	1.3	0.2	0.7	0.1
Main Line Railways (km)	0	0.002	0	0.1	0	0	0.6	0	0.2	0	0	0.1
Agricultural Land - Grades 1, 2 and 3 (ha)	0.1	43.1	8.3	11.5	12.9	4.4	23.1	14.5	166.7	17.0	37.4	13.8
Special Areas of Conservation (SAC) (ha)	0	0	0	0	3.7	0.8	0	0	1.8	3.0	0.001	1.3

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Special Protection Areas (SPA) (ha)	0.01	0.1	0.01	0.0004	2.1	0	0	0	0	0.1	0.7	0
Ramsar Sites (ha)	0	0	0	0	1.2	0	0	0	0.2	0	0	1.3
Sites of Special Scientific Interest (SSSI) (ha)	0.01	72.3	0.6	0.3	3.9	1.5	0.1	0	192.1	5.0	2.8	1.3
Registered Parks and Gardens (ha)	0	0	0.01	0	0	0	0.1	0	0	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0	0.02	0	0.02	0.002	0.5	0	0.4	0.1	0.01	0.2	0

Risk Receptors at Risk of Flooding from Rivers during the Low Risk Event (Inland Flood Risk Areas)

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	20	4	23	21	23	3	10	22	42	5	16	1
Non-residential Properties (n)	2	2	0	6	0	2	0	0	30	0	1	0
Essential Services (n)	1	2	0	1	0	2	0	0	3	0	1	0
Primary/Trunk Roads (km)	0	0.002	0	0.1	0.1	0	0.6	0.2	0.6	0.4	1.4	0
Minor roads (km)	0.5	0.9	0.4	1.0	0.6	0.2	0.5	0.4	3.8	1.2	1.8	0.2
Main Line Railways (km)	0	0.002	0	0.2	0	0	0.3	0	0.2	0.002	0.01	0.2
Agricultural Land - Grades 1, 2 and 3 (ha)	1.3	63.6	11.6	17.5	17.9	6.6	31.9	19.4	337.2	42.0	86.5	23.7
Special Areas of Conservation	0	0	0	0	4.9	1.2	0	0	5.9	12.2	0.001	1.6

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Ffraw**	**Crigyll**	**Upper Cefni**
(SAC) (ha)												
Special Protection Areas (SPA) (ha)	0.1	0.2	0.1	0.001	2.8	0	0	0	2.9	0.03	2.9	0
Ramsar Sites (ha)	0	0	0	0	1.5	0	0	0	0.3	0	0	1.6
Sites of Special Scientific Interest (SSSI) (ha)	0.01	93.2	0.5	0.3	5.7	2.7	0.2	0	380.8	17.7	6.4	1.6
Registered Parks and Gardens (ha)	0	0	0.03	0	0	0	0.2	0	0	0	0	0
Scheduled Ancient Monuments (SAM) (ha)	0	0.02	0	0.01	0.01	1.2	0	0.1	0.2	0.01	0.4	0

Risk Receptors at Risk of Flooding from Surface Water and Small Watercourses during the High Risk Event (Inland Flood Risk Areas)

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	46	3	7	10	10	9	26	6	16	1	5	8
Non-residential Properties (n)	4	1	0	3	0	5	5	1	3	3	2	5
Essential Services (n)	1	0	0	1	0	4	2	0	1	2	2	1
Primary/Trunk Roads (km)	0.4	0.03	0.02	0.04	0.03	0.1	1.0	1.0	0.9	0.2	0.9	0
Minor roads (km)	1.1	1.9	1.0	1.1	1.0	2.6	0.8	0.6	2.8	2.0	1.2	0.6
Main Line Railways (km)	0	0.2	0.2	0.1	0	0	0.1	0.3	1.6	0.1	0.2	0.9
Agricultural Land - Grades 1, 2 and 3 (ha)	41.4	218.0	146.7	100.2	44.0	56.5	61.4	63.8	121.2	101.2	152.1	93.3
Special Areas of Conservation (SAC) (ha)	0.6	0.001	1.9	0.01	3.7	1.1	0.1	0.1	4.6	1.3	7.0	7.1

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Special Protection Areas (SPA) (ha)	3.8	2.0	4.2	0.3	4.2	0.5	0	0	0.6	1.1	1.5	0
Ramsar Sites (ha)	0	0	0	0	2.4	0	0.01	0	1.0	0	0	7.1
Sites of Special Scientific Interest (SSSI) (ha)	8.9	9.9	9.7	0.4	5.6	7.1	0.3	0.1	48.3	2.9	18.0	8.0
Registered Parks and Gardens (ha)	0	0.4	0	0	0.4	0	0.5	2.2	1.9	0.02	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.1	0	0.01	0.5	0.1	1.2	0.1	0.2	0.02	0.0003	0.1	0

Risk Receptors at Risk of Flooding from Surface Water and Small Watercourses during the Medium Risk Event (Inland Flood Risk Areas)

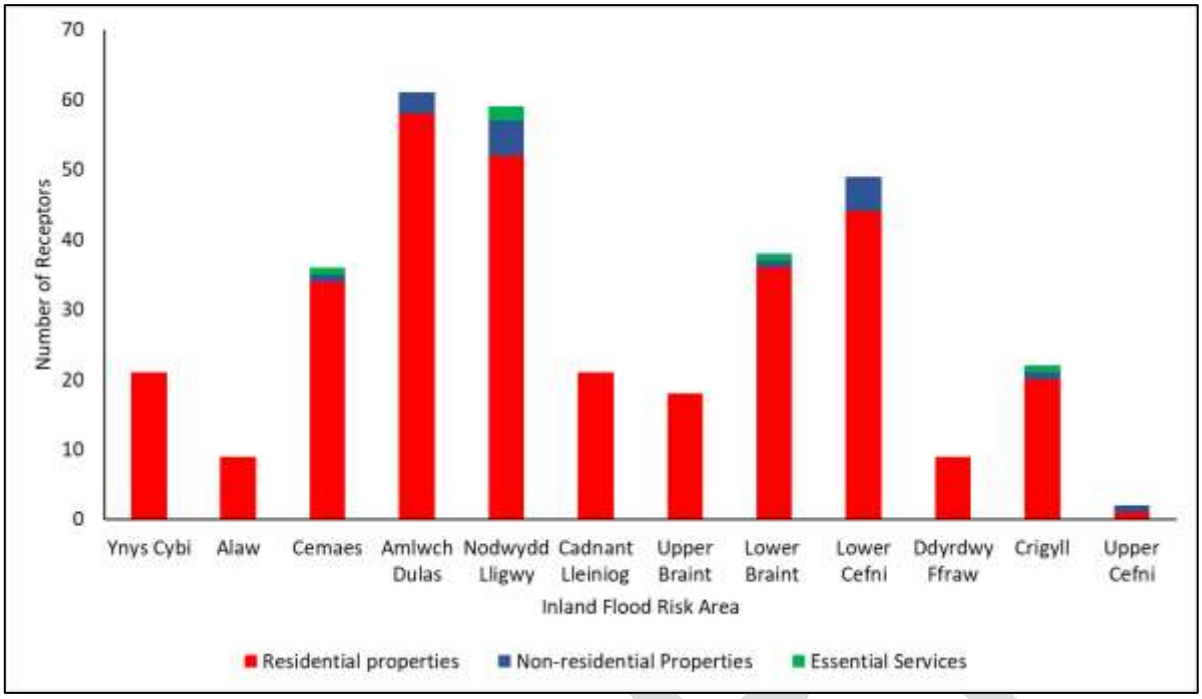
	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	4	0	1	3	1	2	8	0	3	0	0	1
Non-residential Properties (n)	15	2	0	0	2	7	9	6	5	0	0	5
Essential Services (n)	4	1	0	0	0	6	0	2	2	0	0	0
Primary/Trunk Roads (km)	0.5	0.03	0.04	0.04	0.04	0.1	0.4	0.6	0.7	0.1	0.4	0
Minor roads (km)	1.1	1.1	0.9	0.9	0.7	1.5	1.0	0.6	2.1	0.9	0.8	0.5
Main Line Railways (km)	0.02	0.1	0.1	0.1	0	0	0.2	0.5	0.4	0.02	0.1	0.3
Agricultural Land - Grades 1, 2 and 3 (ha)	30.0	126.5	82.9	80.3	28.8	30.3	28.8	30.0	79.1	53.3	77.9	43.2
Special Areas of Conservation (SAC) (ha)	0.6	0.04	2.3	0.004	4.1	1.0	0.1	0.1	4.6	1.6	4.7	6.2

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Special Protection Areas (SPA) (ha)	3.8	2.3	3.5	0.7	2.6	0.7	0	0	0.9	1.1	1.2	0
Ramsar Sites (ha)	0	0	0	0	2.9	0	0.03	0	1.1	0	0	6.2
Sites of Special Scientific Interest (SSSI) (ha)	5.2	30.9	16.6	0.2	5.7	3.5	0.2	0.1	39.8	4.3	14.4	6.8
Registered Parks and Gardens (ha)	0	0.1	0	0	0.2	0	0.2	0.7	0.8	0.01	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.05	0	0.003	0.2	0.2	0.2	0.1	0.2	0.02	0	0.03	0

Risk Receptors at Risk of Flooding from Surface Water and Small Watercourses during the Low Risk Event (Inland Flood Risk Areas)

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Residential properties at risk of internal flooding (depth >0.2m)	44	3	5	9	9	7	26	6	13	0	4	3
Non-residential Properties (n)	45	1	5	13	4	23	20	3	9	0	3	2
Essential Services (n)	6	0	1	4	0	4	7	1	2	0	2	1
Primary/Trunk Roads (km)	0.9	0.1	0.1	0.2	0.3	0.2	0.9	1.3	1.8	0.8	1.0	0.002
Minor roads (km)	5.1	3.6	4.1	3.3	2.7	5.1	2.8	2.5	6.0	2.1	2.2	2.3
Main Line Railways (km)	0.3	0.2	0.1	0.2	0	0	0.4	0.9	1.2	0.9	0.5	0.6
Agricultural Land - Grades 1, 2 and 3 (ha)	50.8	252.4	150.0	105.5	66.4	77.6	72.8	76.6	204.9	122.5	179.1	105.8
Special Areas of Conservation (SAC) (ha)	2.4	0.03	12.2	0.03	10.5	4.1	0.5	0.1	15.6	4.8	9.8	12.7

	Inland Flood Risk Area											
Risk Receptor	**Ynys Cybi**	**Alaw**	**Cemaes**	**Amlwch Dulas**	**Nodwydd Lligwy**	**Cadnant Lleiniog**	**Upper Braint**	**Lower Braint**	**Lower Cefni**	**Ddyrdwy Fraw**	**Crigyll**	**Upper Cefni**
Special Protection Areas (SPA) (ha)	12.6	5.5	16.6	1.8	7.7	4.5	0	0	3.2	2.9	3.0	0
Ramsar Sites (ha)	0	0	0	0	7.6	0	0.1	0	2.8	0	0	12.7
Sites of Special Scientific Interest (SSSI) (ha)	12.6	10.1	22.9	0.2	13.7	10.9	0.8	0.1	103.9	11.2	37.3	14.2
Registered Parks and Gardens (ha)	0	0.5	0	0	0.4	0.1	0.5	1.6	2.3	0.03	0	0
Scheduled Ancient Monuments (SAM) (ha)	0.1	0.03	0.1	0.3	0.2	0.5	0.2	0.4	0.1	0.0001	0.2	0

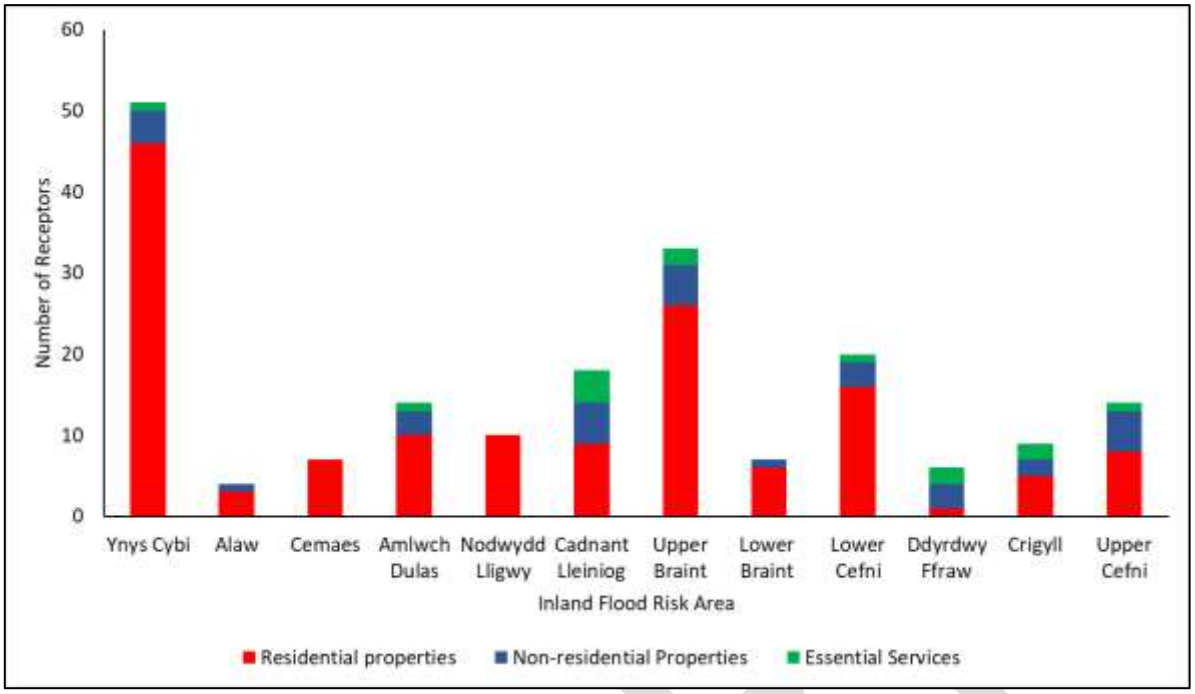


Risk Receptors (Residential Properties, Non-Residential Properties and Essential Services) at Risk of Flooding from Rivers during the High Risk Event (Inland Flood Risk Areas)

Analysis of Flood Risk from Rivers (Inland FRAs).

Inland FRA	Flood Risk	CaRR areas most at risk
Ynys Cybi	▪ Moderate number of residential properties at risk in the low-risk event	Holyhead
Cemaes	▪ Moderate number of residential properties at risk in the high and low risk events	Llanfechell
Amlwch Dulas	▪ High number of residential properties at risk in the high-risk event ▪ Moderate number of residential properties at risk in the low-risk event ▪ Moderate number of non-residential properties at risk in the low-risk event	Amlwch Amlwch Amlwch
Nodwydd Lligwy	▪ High number of residential properties at risk in the high-risk event	Benllech and Moelfre Moelfre

Inland FRA	Flood Risk	CaRR areas most at risk
	▪ Moderate number of residential properties at risk in the low-risk event ▪ High number of non-residential properties at risk in the high-risk event ▪ Highest number of essential services at risk in the high-risk event	Benllech Benllech
Upper Braint	▪ Moderate number of residential properties at risk in the high and low risk events ▪ Risk to railways in the medium and low events and roads in all events.	Llanfair Pwllgwyngyll Llanfair Pwllgwyngyll
Lower Braint	▪ Moderate number of residential properties at risk in all events	Dwyran
Lower Cefni	▪ High number of residential properties at risk in the high-risk event ▪ Moderate number of residential properties at risk in the medium and low risk events ▪ High number of non-residential properties at risk in all events ▪ Moderate length of minor roads at risk in the low-risk event ▪ Highest risk to railways in the high-risk event	Llangefni Llangefni Llangefni Areas with highest risk are Malltraeth and Llangaffo Llangefni and Pentre Berw



Risk Receptors (Residential Properties, Non-Residential Properties and Essential Services) at Risk of Flooding from Surface Water and Small Watercourses during the High Risk Event (Inland Flood Risk Areas)

Analysis of Flood Risk from Surface Water and Small Watercourses (Inland FRAs).

Inland FRA	Flood Risk	CaRR areas most at risk
Ynys Cybi	▪ High number of residential properties at risk in the high and low risk events ▪ High number of non-residential properties at risk in the medium and low risk events ▪ High number of essential services at risk in the low-risk event	Holyhead Holyhead Holyhead
Cadnant Lleiniog	▪ Moderate number of non-residential properties at risk in the low-risk event ▪ Highest number of essential services at risk in the high and medium risk events ▪ Highest length of minor roads at risk in the high-risk event	Beaumaris Beaumaris Mainly Beaumaris

Inland FRA	Flood Risk	CaRR areas most at risk
Upper Braint	▪ Moderate number of residential properties at risk in the high and low risk events ▪ Moderate number of non-residential properties at risk in the low-risk event ▪ High number of essential services properties at risk in the low-risk event ▪ Risk to railways and roads in all events.	Llanfair Pwllgwyngyll Llanfair Pwllgwyngyll Llanfair Pwllgwyngyll Llanfair Pwllgwyngyll
Lower Cefni	▪ Highest length of minor roads at risk in the high-risk event ▪ Highest length of railways at risk in the high-risk event	Mainly Llangristiolus Mainly Llangaffo

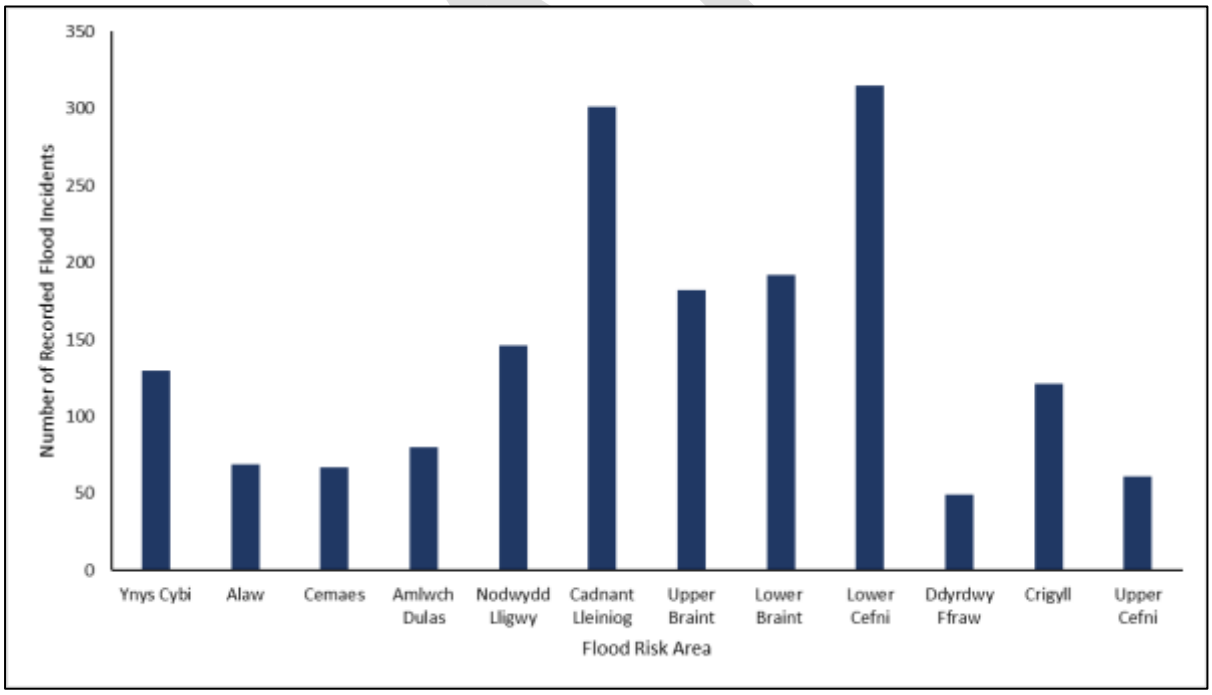
Recorded Flood Incidents in Anglesey

The number of recorded flood incidents (defined as any recorded flood incident) since August 2012 in each of the 'Inland Flood Risk Areas' has been totalled. The 'Inland Flood Risk Areas' have been used because they cover the whole of Anglesey. These flood records could relate to flooding from any source whereas the data presented above only relates to flood risk from the sea, rivers and surface water and small watercourses.

Number of Recorded Flood Incidents in Anglesey (Inland Flood Risk Areas)

Flood Risk Area	Ynys Cybi	Alaw	Cemaes	Amlwch Dulas	Nodwydd Lligwy	Cadnant Lleiniog
Number of Recorded Flood Incidents	130	69	67	80	146	301

Flood Risk Area	Upper Braint	Lower Braint	Lower Cefni	Ddyrdwy Ffraw	Crigyll	Upper Cefni
Number of Recorded Flood Incidents	182	192	315	49	121	61



Number of Recorded Flood Incidents in Anglesey (Inland Flood Risk Areas)

All the FRAs show records of flood incidents. Recorded flood incidents may have been caused by the Sea, Rivers or Surface Water and Small Watercourses as discussed in the sections above. They may however have other causes such as surcharging of sewers, blocked culverts or groundwater flooding.

The ten CaRR areas with the highest number of recorded flood events are shown below.

The ten CaRR areas with the highest number of recorded flood incidents.

Inland FRA	CaRR Area	Number of Recorded Flood Incidents
Lower Cefni	Llangefni	129
Upper Braint	Llanfair Pwllgwyngyll	87
Cadnant Lleiniog	Beaumaris	86
Lower Braint	Gaerwen	83
Cadnant Lleiniog	Llangoed	76
Ynys Cybi	Holyhead / Caergybi	75
Upper Braint	Menai Bridge	70
Cadnant Lleiniog	Llandegfan	63
Lower Cefni	Pentre Berw	54
Lower Braint	Dwyran	47

Summary of Flood Risk Areas

Based on the data above, the table below shows a summary of the areas at most risk of flooding in Anglesey.

Summary of Flood Risk Areas in Anglesey

CaRR Area	Source of Flooding	Receptors at Risk
Amlwch	Rivers	Residential, Non-residential
Beaumaris	Sea	Residential, Non-residential, Essential Services
	Surface Water & Small Watercourses	Non-residential, Essential Services, Minor Roads
Benllech	Rivers	Residential, Non-residential, Essential Services
Dwyran	Sea	Residential, Essential Services
	Rivers	Residential
Dyffryn	Sea	Residential, Non-residential, Minor roads
Gaerwen	Based on flood incident data	
Holyhead	Sea	Residential, Non-residential
	Rivers	Rivers - Residential
	Surface Water & Small Watercourses	Residential, Non-residential, Essential services
Llandegfan	Based on flood incident data	
Llanfair Pwllgwyngyll	Rivers	Residential, Railways and roads
	Surface Water & Small Watercourses	Residential, Non-residential, Essential Services, Railways and roads
Llanfechell	Rivers	Residential
Llangaffo	Sea	Minor roads
	Rivers	Minor roads

CaRR Area	Source of Flooding	Receptors at Risk
	Surface Water & Small Watercourses	Railways
Llangefni	Rivers	Residential, Non-residential, Railways
Llangoed	Based on flood incident data	
Llangristiolus	Surface Water & Small Watercourses	Minor roads
Malltraeth	Sea	Residential, Minor roads
	Rivers	Minor roads
Menai Bridge	Sea	Residential
Moelfre	Rivers	Residential
Pentre Berw	Based on flood incident data	
Red Wharf Bay	Sea	Residential
Trearddur	Sea	Residential