



Complete Agenda

Democratic Services
Council Offices
CAERNARFON
Gwynedd
LL55 1SH

Meeting

COMMUNITIES SCRUTINY COMMITTEE CRIME AND DISORDER

Date and Time

10.30 am, THURSDAY, 22ND FEBRUARY, 2024

This meeting will be webcast

https://gwynedd.public-i.tv/core/l/en_GB/portal/home

Note: a briefing session will be held for members at 10:15am

Location

Hybrid

Siambr Hywel Dda, Council Offices, Caernarfon, Gwynedd, LL55 1SH

AND

Virtually via Zoom

Contact Point

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COMMUNITIES SCRUTINY COMMITTEE

MEMBERSHIP (18)

Plaid Cymru (11)

Councillors

Elwyn Edwards
Elin Hywel
Edgar Wyn Owen
Beca Roberts

Delyth Lloyd Griffiths
Kim Jones
Llio Elenid Owen
Rhys Tudur

Annwen Hughes
Linda Morgan
Arwyn Herald Roberts

Independent (6)

Councillors

Robert Glyn Daniels
Elfed Powell Roberts
Rob Triggs

Gwilym Jones
Peter Thomas
Gruffydd Williams

Liberal Democrats / Labour (1)

Councillor Stephen Churchman

Ex-officio Members

Chair of the Council

A G E N D A

1. APOLOGIES

To receive any apologies for absence.

2. DECLARATION OF PERSONAL INTEREST

To receive any declaration of personal interest.

3. URGENT ITEMS

To note any items that are a matter of urgency in the view of the Chairman for consideration.

4. MINUTES

4 - 10

The Chairman shall propose that the minutes of the meeting of this Committee, held on 30 November 2023 be signed as a true record.

5. ANNUAL UPDATE BY THE COMMUNITY SAFETY PARTNERSHIP (GWYNEDD AND ANGLESEY) 11 - 29

To provide an overview to Members of the activities of the Gwynedd and Anglesey Community Safety Partnership (CSP) for the period of 2023/24.

6. LOCAL FLOOD STRATEGY

30 - 177

To present a Draft copy of the Local Flood Strategy.

7. GRASS CUTTING AND MAINTAINING COUNTRY ROAD VERGES 178 - 200

To present a review of the County's roadside maintenance arrangements.

8. COMMUNITIES SCRUTINY COMMITTEE FORWARD 201 - 203 PROGRAMME

- To adopt an amended work programme for 2023/24.
- To confirm arrangements to identify items to be discussed at the Committee's meeting in May 2024.

COMMUNITIES SCRUTINY COMMITTEE, 30 NOVEMBER 2023

Attendance:

COUNCILLORS:

Elin Hywel (Chair)
Annwen Hughes (Vice-chair)

Stephen Churchman, Glyn Daniels, Elwyn Edwards, Delyth Lloyd Griffiths, Gwilym Jones, Linda Morgan, Edgar Owen, Llio Elenid Owen, Beca Roberts, Elfed P. Roberts, Peter Thomas, Rhys Tudur and Gruffydd Williams.

Officers present:

Bethan Adams (Scrutiny Advisor), Rhodri Jones (Democracy Services Officer), Ellie Evans (Democracy Services Administrative Assistant) and Geraint Owen (Corporate Director).

Present for item 5:

Councillor Dyfrig Siencyn (Council Leader), Dafydd Gibbard (Chief Executive), Bethan Richardson (Climate Change Programme Manager) and David Mark Lewis (Energy and Commercial Services Manager)

Present for item 6:

Councillor Berwyn Parry Jones (Cabinet Member for Highways, Engineering and YGC), Steffan Jones (Head of Highways, Engineering and YGC Department), Emlyn Jones (Assistant Head of Highways, Engineering and YGC Department), Rob Williams (Water and Environment Service Manager) and Rhydian Roberts (Chief Engineer).

1. APOLOGIES

Apologies were received from Councillors Kim Jones, Arwyn Herald Roberts and Rob Triggs.

2. DECLARATION OF PERSONAL INTEREST

There were no declarations of personal interest.

3. URGENT ITEMS

None to note.

4. MINUTES

The Chair signed the minutes of the previous committee meeting held on 05 October 2023 as a true record.

5. CLIMATE AND NATURE EMERGENCY PLAN: ANNUAL REPORT 2022/23

The report was submitted by the Chief Executive. Attention was drawn briefly to the following main points:

Members were reminded that the Climate and Nature Emergency Plan was one of the priorities within the Council Plan, with a Board established to support it.

Attention was drawn to the fact that the plan included two steps. It was detailed that the first phase was to implement the Council's projects to reduce the use of energy and reduce the Council's carbon emissions and the second phase would be to look at the wider impact on the county, considering how the Council could help communities and how the county could respond to the impact of climate change.

It was explained that dealing with the climate and nature was part of the Council's work since 2005/06 and it was noted that a huge success could be seen by now. It was detailed that there were 51% less carbon emissions in the Construction field between 2005/06 and 2019 and 23% carbon emissions in the Fleet field within the same period. It was reported that the Council had managed to reduce the Council's carbon emissions by 43% within this period.

It was noted that the Council saw financial benefits when tackling the climate and nature emergency, saving around £15 million since 2010. It was emphasised that this meant that more cuts would have needed to be made as a result of the Council's current financial situation if the work on the climate change and nature emergency had not been delivered. It was recognised that new considerations needed to be considered by now, such as challenges in the scrutiny field and the fact that more of the council's workforce worked from home.

Concern was expressed regarding the method of calculating carbon emissions deriving from procurement nationally. It was explained that buying local goods was calculated in the same way as buying goods from the continent, even though there were major differences in the actual carbon emissions. It was noted that this could impact the local economy in areas as there was no encouragement to buy locally. It was explained that procurement had been refined over the past two years leading to a reduction in the Council's carbon emissions. It was noted that the consistent message conveyed to the Welsh Government was that the method of calculating in the procurement field wasn't an accurate reflection of the real situation. There was concern that it would not be possible to reach targets to become carbon neutral by 2030 if this method of calculation was not amended.

It was confirmed that the Council was ready to look at step two of the Plan, which was to look at plans for the future. It was mentioned that the first step of the plan was to reduce carbon emissions, and therefore long-term plans needed to be secured for these emission figures to remain low. It was explained that these developments were being implemented within the following main themes:

- Construction and Energy
- Moving and transporting
- Waste
- Governance
- Procurement
- Land Use
- Ecology

Details were provided on some of the themes by providing examples of associated projects. Reference was made to the solar panels project within the construction and energy field, and it was noted that this was a field that the Council had previously invested in and that £500k of savings had been created as a result of the project. It was noted that a further £2.8 million had recently been invested in the field. The plan to update the Council's fleet was reported upon, as part of the 'Moving and transport' theme for electric vehicles. It was noted that there was a mistake in Section 6 of the report that there were

16 charging points across 4 locations for the public to use, it was emphasised that these were for the Council's fleet and that several charging points were available to the public in several locations across the County. It was hoped that it would be possible to intertwine these projects together in the future.

A member noted that the report was detailed, interesting and to be commended but that there were possible improvements to be made. He gave details of his concerns regarding being over-dependent on electric energy considering the number of things that could influence this such as the pricing of public charging points compared to domestic supply, and the effectiveness of solar panels during the winter months. Reference was made to the table on page 5 of the annual report, drawing attention that there was no marked column adjacent to 'Moving and transport' to show the connection between the project and the objectives of Section 6, Environment (Wales) Act 2016. It was noted that matters including carbon emissions meant that there was a connection with the objectives of Section 6 of the Act.

Reference was made to the mid-term priority 'Updating specialist lighting in leisure centres in order to use less energy' under the heading 'Construction and Energy'. It was asked if this had been considered for the Council's other buildings. Attention was drawn to the continuous priority 'Preventing the over-development of fossil fuel energy plans.' It was questioned why 'over-development' was noted rather than non-fossil energy plans or no fossil plans that cannot be justified.

Reference was made to the observation under the heading 'Renewable Energy' on page 23 of the annual report - 'Unfortunately, no acknowledgement is given to us as an establishment if we create electricity to export to the grid and we can't claim the carbon credit for it.' It was noted, although they acknowledged that it was a matter beyond the Council's control that there was an opportunity by generating and exporting electricity to the national grid to argue that any electricity sold to the grid should be used locally providing the opportunity for local customers to buy it at a lower rate than the general open market. It was explained that this would help individuals in fuel poverty and would help those wishing to change from using gas and coal but cannot afford this. It was noted that it would contribute to the aim of assisting the community and influencing other people beyond the Council's direct responsibility.

In response to the observations, officers noted:

- That they shared the concern regarding the over dependency on electric energy. The over dependency can affect inflation and prices.
- That moving towards electric energy with the hope that the national grid would be free from carbon in the future. This was the only way the Council could reach zero net but it was acknowledged that there were risks associated with this.
- In terms of no acknowledgement for exporting electricity to the grid, the situation was frustrating but the Welsh Government had noted that as the grid turns to be non-carbon that acknowledgement would be given when the Council would re-purchase the energy back.
- That there was an intention to update lights across all Council estates with an LED lights pilot scheme to be submitted for approval.
- They accepted the point that it was possible to add examples of how we contribute to the objectives of Section 6 of the Environment (Wales) Act 2016, through projects related to travelling, specifically in terms of active travel.

Members questioned if it would be possible to use wind or water/hydro energy on Council land, such as the Council's small holdings. The Energy and Commercial Services Manager explained that the Council's solar panels were monitored regularly in order to

calculate how much energy they generate but it was acknowledged that it would not be possible to generate energy on Council land unless Council buildings were close and the energy would have to be sold to the national grid. Despite this, he confirmed that the Council was continuously looking at new systems and were open to possible considerations due to the increasing demand to generate power.

A member asked about developments in the hydrogen field. In response, the Chief Executive noted that further work had been commissioned by the Nature and Climate Change Board to look at the Council's situation and at developments in this field.

A member referred to information regarding the origin of energy on a specific day on the National Grid website. He noted that fossil fuels were responsible for 62%, nuclear for 12%, Biomass for 8% and renewable energy for 13% of the electricity generated on the relevant day. It was questioned how the Council would reach zero-net by 2030 and what would be the obligations of reaching zero-net. It was noted that using more coal was the way forward, and reference was made to countries such as China, India and Germany who were increasing their use.

The importance of ensuring that appropriate officers deal with nature and climate change matters was discussed and the Climate Change Programme Manager was thanked for her work with the scheme. Emphasis was placed on the need to ensure that the work of the officers within this field was not lost as the Council faced financial cuts and that the responsibility for the plan was not passed on to officers working beyond this field, as part of their responsibilities. It was noted that there was expertise in this field within the Council and opportunities needed to be considered to offer a consultative service for other establishments and generate income as a result.

Attention was drawn to the 'What did we promise to do in 2022/23' and 'What we did' titles in sections 5-11 noting that the information could appear unclear in these parts. It was noted that consideration should be given to adapting the format of how information was displayed for clarity to the reader.

It was confirmed that the observations submitted as part of the discussion would be submitted to the Cabinet when submitting the Annual Report on 19 December. The intention to submit another annual report to this Committee in the new year was noted.

RESOLVED:

1. To accept the report and to recommend:

- (i) That information on 'Active Travel' should be added under Section 3 of the Report: 'Section 6, Environment (Wales) Act 2016'.**
- (ii) Consideration should be given to adapting the format of how information is displayed under the 'What did we promise to do in 2022/23?' and 'What we did' titles in Sections 5-11 of the Report for clarity to the reader.**

2. Recommend to the Cabinet that the staffing resource should be considered to achieve the vision of the Climate and Nature Emergency Plan.

6. LOCAL FLOOD STRATEGY

The report was submitted by the Cabinet Member for Highways and Municipal and Gwynedd Consultancy. Attention was drawn briefly to the following main points:

It was explained that the Local Flood Risk Management Strategy was one of the requirements of the Flood and Water Management Act 2021 and that it needed to be consistent with the National Strategy published last year. It was reported that there was a need to amend the Strategy to correspond with the statutory requirements by spring 2024.

It was confirmed that the 5 main Objectives of this amended Strategy were:

1. Aim to reduce the level of risk of flooding and coastal erosion for Gwynedd residents.
2. Developing further understanding of flood risk to Gwynedd and the impacts of climate change.
3. Continue to work with all relevant bodies to ensure appropriate and sustainable development in Gwynedd.
4. Raising awareness of local flood and coastal erosion risk
5. Work collaboratively with all other Risk Management Authorities and relevant groups/bodies to ensure a coordinated response to flooding and coastal erosion incidents.

It was explained that currently the entire Strategy had not been drafted but that the Report and the Appendices displayed the types of information that the plan will include. It was confirmed that the Objectives had been formulated in response to the challenges seen in Gwynedd. A request was made for the Committee to consider scrutinising the full Strategy following a period of statutory consultation.

A Member noted his support to consult with communities in areas where the risks of flooding was high but that there was also a need to include communities in areas with a secondary flooding risk. It was acknowledged that there was a need for all residents to be aware of the Strategy and how to respond when flooding occurred as some areas become isolated as flooding closes roads, leading to medical care difficulties, access to shops and several other problems. It was emphasised that there was an invitation for everyone to participate in the statutory consultation to ensure that as much information as possible was fed into the final document, and that systems were in place to share information and keep Gwynedd residents safe.

In response to an enquiry on the use of soft terminology such as 'aiming' within the report documentation, it was confirmed that the language was used due to restrictions on the Council. It was confirmed that some elements within the field were the responsibility of bodies beyond the Council, and under the Government's control and therefore it was difficult to currently use robust wording without an understanding of the Government's aspirations.

It was acknowledged that specifying responsibilities amongst partners had been challenging in the past, but an understanding had been reached as the relationship between them developed. It was emphasised that the full strategy would highlight the responsibilities of all partners in the future. It was explained that the partners go beyond their responsibilities in emergency situations.

In response to a question by a member, it was noted that the emergency planning meetings were held regularly and that there was an intention to hold a exercise to ensure the resilience of the plans to respond to flooding incidents.

A member enquired about the arrangements to fund work in the flooding field. In response, it was noted that the work that could be achieved was dependent on grants. It was elaborated that changing from the method of specific grant funding to be included in the revenue support grant would mean that there would be an impact on attracting other grants in the future.

All members were encouraged to attend the consultation meetings and to encourage residents in their wards to voice their opinions. The officers were thanked for their work.

RESOLVED

1. To accept the report and to recommend:

- (i) that information about the risk in terms of roads flooding, as well as the risk to property, should be included in the Local Flood Strategy;**
- (ii) that awareness should be raised amongst all residents of how to prepare for flooding.**

2. That the Committee scrutinises the Local Flood Strategy following the public consultation at its meeting on 22 February 2024.

7. COMMUNITIES SCRUTINY COMMITTEE FORWARD PROGRAMME 2023/24

The report was presented by the Scrutiny Adviser noting the following main points:

Members were reminded that the Communities Committee's amended Forward Programme for 2023/24 had been adopted at the Committee's meeting on 5 October 2023.

It was explained that the forward programme needed to be revised further for 2023/24. Attention was drawn to the 'Governance Structure and Delivery Arrangements of the Gwynedd and Anglesey Public Services Board' item that had been scheduled for this meeting, but it wasn't timely to be considered. It was noted that confirmation was received by the Gwynedd and Anglesey Public Services Board Programme Manager that it would be timely to present this item to the Committee meeting on 18 April 2024. Reassurance was provided that this would meet the need to scrutinise the work of the Board twice within the Council year.

It was reported that the 'Waste Collection and Recycling Service' item had been programmed for the meeting on 18 April 2024 during the annual workshop this year. An update was given at a meeting between the Chair and Vice-chair of the Committee, Cabinet Member for Environment, and the Head of the Environment Department that it would not be timely to scrutinise this item during this meeting. It was considered that scrutinising the item later in the year would allow work streams in this field to develop further. It was suggested that re-scheduling the item and consider prioritising it at the 2024/24 Annual Workshop for the first meeting of 2024/25 would allow the Committee to add value by scrutinising it in a timely manner.

Members were reminded that the Committee, in the previous item, had resolved to scrutinise the 'Local Flood Strategy' at its meeting on 22 February 2024.

It was noted that confirmation was received following the publication of the meeting agenda, that it would not be possible to submit the 'Article 4 Direction - Public Consultation' report to the Committee meeting on 22 February 2024. It was explained that this was due to significant work that needed to be done following receiving 3,900 responses to the public consultation.

It was anticipated that it would be possible to report to the Committee at its meeting on 18 April 2024. It was suggested to facilitate this, that it would be an option to remove the 'Public Protection Service' item from the forward programme for 2023/24 as there was no specific concern regarding performance in this field. It was added that consideration could be given to prioritising the item for 2024/25 at the Annual Workshop.

Support was noted for the intention to prioritise the items in accordance with the above.

RESOLVED

To adopt the amended work programme for 2023/24.

The meeting commenced at 10.30 a.m. and concluded at 12.15 p.m.

CHAIR

Agenda Item 5

REPORT TO: COMMUNITIES SCRUTINY COMMITTEE (CRIME AND DISORDER) GWYNEDD LOCAL AUTHORITY

DATE: 22/02/2024

REPORT BY: COUNCILLOR DILWYN MORGAN
DARON MARGED OWENS – SENIOR OPERATIONAL OFFICER

SUBJECT: ANNUAL UPDATE BY THE COMMUNITY SAFETY PARTNERSHIP (GWYNEDD AND ANGLESEY)

1.00	PURPOSE OF THE REPORT
1.01	To provide an overview to Members of the activities of the Gwynedd and Anglesey Community Safety Partnership (CSP) for the period of 2023-24.
2.00	BACKGROUND
2.01	<p>The Community Safety Partnership is required to formally report to this committee each year to present an overview. This ensures that the Partnership delivers its obligations in accordance with sections 19 and 20 of the Criminal Justice and Police Act 2006.</p> <p>The committee's duty is to scrutinise the Partnership's work, rather than the work of individual members (bodies).</p>
2.03	<p>BACKGROUND:</p> <p>1) There is a statutory duty on Local Authorities in accordance with the Crime and Disorder Act 1998, and subsequent amendments because of the Police and Criminal Justice Act 2002 and 2006, to work in partnership with the Police, the Health service, the Probation Service and the Fire and Rescue Service, to address the local community safety agenda. These are the main agencies that make up the Community Safety Partnership.</p> <p>2) Community safety partnerships were originally called crime and disorder partnerships, and although the name has been changed, the areas or responsibility have not, and they remain –</p> <ul style="list-style-type: none">• Crime and Disorder• Substance Misuse• Reducing reoffending• Since 2023, we also have a responsibility to formulate and implement a strategy to prevent and reduce serious violence, following amendments to the Crime and Disorder Act as a result of the new Serious Violence Duty. In North Wales, a regional approach is being taken.

	<ul style="list-style-type: none"> Under the Domestic Violence, Crime and Victims Act 2004, CSPs have a statutory duty to establish Domestic Homicide Reviews. These are a review of the circumstances in which the death of a person aged 16 or over has, or appears to have, resulted from violence, abuse or neglect by— (a) a person to whom he was related or with whom he was or had been in an intimate personal relationship, or (b) a member of the same household as himself, held with a view to identifying the lessons to be learnt from the death. <p>3) Quarterly meetings are always well attended. Partners and Local Members who attend the meetings contribute positively, and quarterly data on crime figures and plan delivery are shared at every meeting. Every responsible member of the partnership contributes financially to having in place a partnership analyst, so that regular data can be supplied to support evidence-based decisions.</p> <p>4) Working between partners is fundamental to community safety. The main reason for the introduction of CSP's back in 1998, was to ensure that crime and disorder was seen as 'everybody's problem' and not the realm of the Police alone.</p> <p>5) Some of the main changes the partnership has, and currently faces are listed below:</p> <ul style="list-style-type: none"> Loss of local grants – all the grants, which the partnership once received have now either ended, or have moved to a regional grant position, managed on a North Wales basis. We do not commission any projects or services directly (only the DHRs) as we have no funding allocated to Community Safety. Loss of local coordinators – some posts have been lost because of the withdrawal of funding; others became a regional resource. However, by maintaining close and purposeful membership of the regional groups, we are confident that local needs are embedded in all regional plans and activity. The main challenges we all face of course, is the changing face of criminality in our communities today. Even though Gwynedd and Anglesey remain amongst the safest places to live, we face the same issues as all other areas of the UK. Crime today is far-reaching and complex, with the use of technology enabling a level of exploitative crime not seen before. Organized crime gangs exist across the UK, and most are involved with drug-related crime. These gangs are known as county lines gangs and have been the subject of much responsive activity in North Wales, which has impacted greatly on the criminal gangs' activity in the area.
3.00	THE PARTNERSHIP'S PRIORITIES/DOCUMENTS FOR SCRUTINY
3.01	<p>The partnership works to an annual plan. Attached is the 2023-24 plan, which is based on the priorities within the Safer North Wales Board's Strategy. These priorities are:</p> <ul style="list-style-type: none"> Preventing Crime and Anti-Social Behaviour

	<ul style="list-style-type: none">• Tackling Violent Crime• Tackling Serious Organised Crime• Protecting and building resilient communities and maintaining public safety.																																																																																							
4.00	OVERVIEW OF OFFENDING RATES OVER THE REPORTING PERIOD																																																																																							
4.01	<p>Background:</p> <ul style="list-style-type: none">• The Police look at crime figures constantly and review all changes on a regional and local basis. Any significant changes are subject to further analysis. Problem areas will then be reviewed, with Policing plans put in place to tackle the issues. Local policing methods include the daily tasking of resources to tackle issues as they emerge.• The Partnership receive data on crime levels on a quarterly basis. The data we generally use, is that of a comparison between the period in the current year, and the same period in the former year. <p>CRIME DATA</p> <p>1. Below is the most recent crime data for Gwynedd for February 2024 from the Partnership Analyst within North Wales Police. This outlines the figures for the year to date, with comparison to the previous year and the picture across North Wales.</p> <table><tr><th rowspan="2">Gwynedd - Crime & Incident Data</th><th colspan="2">Fiscal Year</th><th rowspan="2">% Change (YTD)</th><th rowspan="2">North Wales % Change (YTD)</th></tr><tr><th>2022/23 (YTD)</th><th>2023/24 (YTD)</th></tr><tr><td>All Victim Based Crime</td><td>6,844</td><td>6,093</td><td>-11.0%</td><td>-14.4%</td></tr><tr><td>Violence with injury</td><td>903</td><td>903</td><td>0.0%</td><td>-7.8%</td></tr><tr><td>Violence without injury</td><td>1,354</td><td>1,103</td><td>-13.4%</td><td>-12.3%</td></tr><tr><td>Stalking & Harassment</td><td>1,215</td><td>1,075</td><td>-11.5%</td><td>-16.1%</td></tr><tr><td>Sexual offences</td><td>295</td><td>304</td><td>3.1%</td><td>-12.7%</td></tr><tr><td>All Acquisitive Crime</td><td>1,263</td><td>1,508</td><td>19.4%</td><td>3.9%</td></tr><tr><td>- Burglary Residential</td><td>128</td><td>134</td><td>4.7%</td><td>-9.3%</td></tr><tr><td>- Burglary - Business and Community</td><td>78</td><td>79</td><td>1.3%</td><td>-13.1%</td></tr><tr><td>- Robbery</td><td>10</td><td>16</td><td>60.0%</td><td>-11.2%</td></tr><tr><td>- Vehicle Crime</td><td>134</td><td>169</td><td>26.1%</td><td>-1.0%</td></tr><tr><td>- Theft and Handling</td><td>1,047</td><td>1,208</td><td>15.4%</td><td>8.2%</td></tr><tr><td>Criminal Damage & Arson</td><td>2,533</td><td>1,861</td><td>-26.5%</td><td>-12.1%</td></tr><tr><td>Domestic Crime</td><td>1,497</td><td>1,236</td><td>-17.4%</td><td>-14.6%</td></tr><tr><td>Domestic Incidents (non-crime)</td><td>691</td><td>665</td><td>-3.8%</td><td>3.5%</td></tr><tr><td>Hate Crime</td><td>203</td><td>143</td><td>-29.6%</td><td>-20.8%</td></tr><tr><td>Anti-Social Behaviour</td><td>2,391</td><td>2,089</td><td>-12.6%</td><td>-8.4%</td></tr></table>	Gwynedd - Crime & Incident Data	Fiscal Year		% Change (YTD)	North Wales % Change (YTD)	2022/23 (YTD)	2023/24 (YTD)	All Victim Based Crime	6,844	6,093	-11.0%	-14.4%	Violence with injury	903	903	0.0%	-7.8%	Violence without injury	1,354	1,103	-13.4%	-12.3%	Stalking & Harassment	1,215	1,075	-11.5%	-16.1%	Sexual offences	295	304	3.1%	-12.7%	All Acquisitive Crime	1,263	1,508	19.4%	3.9%	- Burglary Residential	128	134	4.7%	-9.3%	- Burglary - Business and Community	78	79	1.3%	-13.1%	- Robbery	10	16	60.0%	-11.2%	- Vehicle Crime	134	169	26.1%	-1.0%	- Theft and Handling	1,047	1,208	15.4%	8.2%	Criminal Damage & Arson	2,533	1,861	-26.5%	-12.1%	Domestic Crime	1,497	1,236	-17.4%	-14.6%	Domestic Incidents (non-crime)	691	665	-3.8%	3.5%	Hate Crime	203	143	-29.6%	-20.8%	Anti-Social Behaviour	2,391	2,089	-12.6%	-8.4%
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Hate Crime	203	143	-29.6%	-20.8%																																																																																				
Anti-Social Behaviour	2,391	2,089	-12.6%	-8.4%																																																																																				

	<ol style="list-style-type: none"> 2. Violence against the person offences have, overall, decreased in Gwynedd in 2023/24, compared to the same period last year. Violence without injury offences have seen a significant fall in volumes, with over 250 fewer offences recorded so far this fiscal year, compared to last. 3. Year-to-date Stalking and Harassment data for 2023/24 shows a -11.5% decrease in comparison to the same period in 2022/23. This equates to 140 fewer Stalking & Harassment offences being recorded. 4. The 2023/24 year-to-date recorded level of Sexual Offences in Gwynedd has seen a marginal increase in comparison to 2022/23. There can be significant fluctuations in reported offences from week to week, partly due to reporting of historic offences. 5. Acquisitive crime includes the categories Burglary Residential, Burglary Business & Community, Robbery, Vehicle Crime and Theft & Handling. Burglary Residential offences have increased marginally in Gwynedd this year by 4.7% (+9 occurrences), in comparison to last year. Increases have also been seen for Robbery and Vehicle Crime, although volumes are relatively low. Year-to-date, there has been a marked increase in the volume of Theft & Handling offences in Gwynedd and also across the force area, in comparison to last year. This is mainly driven by an increase in Retail Crime (Shoplifting), which falls within the Theft and Handling category. Shoplifting in Gwynedd is 43.2% higher year-to-date in comparison to last year, with the force seeing overall increases of over 35%. The cost-of-living crisis is widely acknowledged as one of the biggest driving forces in the growing number of occurrences. Retail Crime is now a force priority and significant work is being done to tackle the increases being experienced. 6. A significant decrease in the year-to-date volume of Criminal Damage & Arson offences has been seen so far in Gwynedd this year, with over 650 fewer occurrences being recorded. This reduction in volumes is being seen across North Wales. 7. Domestic Crime in Gwynedd has fallen by -17.4% year-to-date, in comparison to last year. This equates to over 250 fewer domestic crimes. These reductions are also being seen across the force area. 8. Following some sharp increases in Hate Crime on Gwynedd, during and post COVID, the 2023/24 volumes are now showing a decrease in comparison to last year. These decreases are being seen across North Wales as a whole. 9. ASB in Gwynedd has seen a year-to-date decrease of 12.6% in 2023/24, in comparison to the same period in 2022/23. This equates to over 300 fewer incidents being reported. Repeat victims of ASB, repeat locations where ASB is occurring, and high-risk vulnerable victims are referred for review to monthly multi-agency tasking groups.
5.00	WORK COMPLETED SO FAR DURING 2023/24
5.01	<ul style="list-style-type: none"> • To develop the annual plan, we consulted with partners on any upcoming activities or projects that linked with the Safer North Wales Board's priorities. The 2023-24 plan (attached) sets out the activity the Partnership wanted to achieve during this

	<p>financial year. The activity is monitored and reported on a quarterly basis to the CSP, so that any remedial activity can be agreed if required.</p> <ul style="list-style-type: none"> • Crime figures are shared on a quarterly basis through a performance report prepared by the Police Analyst, so that any trends and additional activity needed could be discussed. • We have a statutory duty under the Domestic Violence, Crime and Victims Act 2004 to establish Domestic Homicide Reviews (DHRs/definition above). Sadly, the Partnership had 5 ongoing DHRs this year. This work inevitably has significant and continuing resourcing implications, including Home Office sign off which can be a very lengthy and unwieldy process. <p><u>A summary of the work completed this year:</u></p> <ol style="list-style-type: none"> 1. The Serious Violence Duty came into force in January 2023, requiring specified authorities to work together to prepare and implement a strategy for preventing and reducing serious violence in the area. To develop the Strategy, a regional Task and Finish Group was set up with representation from senior responsible officers across relevant authorities. To form the evidence base for the Strategy, a Data and Evidence Subgroup was also created, to develop a local picture of serious violence. Following recent amendments to the Crime and Disorder Act, the CSP has an explicit role in evidence based strategic action on serious violence. The final Strategy was published in January 2024. 2. Working closely with Local Policing Teams, we identified areas that could benefit from the Westminster Government's Shared Prosperity Fund. One of the investment priorities within the fund is 'Community and Place', and one of the Levelling Up Missions aims that: by 2030 homicide, serious violence, and neighbourhood crime will have fallen. As part of this work, we have identified specific locations in Gwynedd where offences take place or where people do not feel safe, where additional CCTV could be introduced. The objective being to improve perceptions of safety and reduce neighbourhood crime. We are pleased to report that the bid was successful, and the additional cameras will be installed by the end of the year. 3. The CSP oversees Prevent delivery in the area (a duty within the Counter-Terrorism and Security Act 2015 on specified authorities to have due regard to the need to prevent people from being drawn into terrorism). Following the annual benchmarking assurance exercise with the Regional Prevent Advisor, we received confirmation in May that Gwynedd was meeting the requirements of the Duty in most areas. We have continued to work constructively and collaboratively with the Regional Advisor to develop any areas of improvement. 4. We continued to coordinate the ongoing Domestic Homicide Reviews in the County. This has involved the attending of Panel Meetings throughout the year, researching the background of the cases, and providing an input into discussions around any missed opportunities, lessons learnt and developing recommendations. 5. Following feedback from service users, the Substance Misuse Harm Reduction outreach service was renamed as the North Wales Enhancing Lives Service. It will
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	<p>retain the outreach focus, but the general support provided will be enhanced with new specialist staff to carry a caseload of more complex cases.</p> <p>6. This year, we are working with the new-in-post Regional Lead for Suicide and Self-Harm Prevention. This involves attendance at the regional forum to develop a regional plan based on the national strategy. Learning from the DHRs have highlighted the link between suicide and domestic abuse, and raising awareness of this will be one of our priorities moving forward.</p> <p>7. Chaired by the Police, the Anglesey and Gwynedd SOC (Serious Organised Crime) group has continued to meet, providing a valuable opportunity for Police and Partner Agencies to discuss local concerns and share intelligence around Organised Crime Gangs in the area.</p>
6.00	WORK ONGOING:
6.01	<p>1. The Serious Violence Duty Strategy was published last month. As mentioned previously, changes to the 1998 Act mean that ensuring preventing and reducing serious violence is a priority for CSPs. Over the next year we will be concentrating on embedding the Strategy.</p> <p>2. Roll out Shared Prosperity Fund CCTV project in three of our towns.</p> <p>3. Once completed, sign off the content of the DHR reports and submit to Home Office for Quality Assurance process before publication.</p> <p>4. Continue to work closely with the Home Office Prevent Regional Advisor to update LA Prevent and Channel arrangements following new guidance published this year. Working alongside our partners in the Regional Prevent Delivery Group to implement a Communication and Engagement Strategy.</p> <p>5. Continue our work with the Regional Lead for Suicide Prevention to develop a workplan relating to improved understanding of, and response to, domestic abuse and its impact on mental health.</p>
7.00	RECOMMENDATIONS
7.01	To note the contents of the report and attached documents, and state whether the Scrutiny Committee supports the priorities and future direction of the work.
8.00	APPENDICES
8.01	2023-24 Plan

Gwynedd and Anglesey Community Safety Partnership Annual Plan 2023-24

Background

The Community Safety Partnership is a group of organisations that collaborate to consider how best to address crime and disorder. The requirement to have such a partnership in place on a local level is part of the law, under the Crime and Disorder Act 1998. Several organisations have a part to play within the partnership, including the local authority, the police, the probation service, the fire and rescue service and the health board.

We have responsibilities under the 1998 Act for a number of areas, including – reducing crime and disorder, reducing re-offending, substance misuse and anti-social behaviour. In addition, we have a duty to commission Domestic Homicide reviews under certain circumstances.

Our plan will deliver against the priorities within the Safer North Wales Partnership Board Strategy, namely:

- 1) Prevent crime and anti-social behaviour
- 2) Tackle violent crime
- 3) Tackle serious organised crime
- 4) Safeguard and build resilient communities and maintain public safety

We are also steered by the following priorities and objectives:

- North Wales Strategic Assessment
- North Wales Police and Crime Commissioner's Plan (2021-24)
- North Wales Vulnerability and Exploitation Strategy (2021-24)
- The Home Office's Beating Crime Plan (2021)

Work plan for next 12 months

#	Action	Output	Outcome	Responsibility	Timetable	Contribute towards
1	Trading Standards to work in conjunction with North Wales Police on the project to prevent cold-callers in relation to individuals who have been identified as potential targets or victims of cold-calling.	Call blockers being leased to users who have been targeted by cold-callers	Reducing the potential for crime	Gwynedd and Anglesey Trading Standards	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 4 in the Safer North Wales Plan
2	Trading Standards respond to intelligence by the National Scams team on potential scam victims. There is a commitment to contact 10 people each month who have been targeted by scammers to provide information and advice.	Individuals who have been previously targeted to receive advice and information in order to reduce the likelihood of being targeted again.	A reduction in repeat victims Increased awareness of scams	Gwynedd Trading Standards	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 4 in the Safer North Wales Plan
3	Trading Standards to work in conjunction with North Wales Police on the investigation programme and visits targeted at properties that sell age-restricted products. This is an effort to restrict the availability of age-restricted products (such as alcohol, tobacco and vapes) that can lead to antisocial	Test purchases in local organisations to ascertain compliance with Challenge 25	Reduction in under-age sales	Anglesey and Gwynedd Trading Standards	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 4 in the Safer North Wales Plan Priority 4 in the Safer North Wales Plan

	behaviour and public order issues in rural communities.					
4	Public Protection adapt the way that they work with partners in Social Services, North Wales Police and other agencies to identify the victims of crime on the Island. These could be victims of scams (telephone, post and cyber) and/or victims of doorstep crime (cold-callers or fraudulent traders).	Improved working practices to increase the prompt sharing of information	Better identification and help to provide early interventions	Anglesey Public Protection	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 4 in the Safer North Wales Plan
5	The Housing Department within Cyngor Gwynedd is currently developing a number of projects in Gwynedd that encompass many of the Community Safety Partnership's priorities. Examples of this work: Three self-contained flats with a high level of support, hopefully opening during the summer. Twelve supported living flats, with the intention of opening the project in November this year. A Senior Officer - Housing Solutions and Mental Health has started in post in January 2023. This role will help to develop a relationship with the Mental Health Service and try to prevent homelessness, and ensure that there is accommodation available upon discharge from hospital.	Five new pods will be built as temporary accommodation. Flats are being prepared with varying levels of support.	Services will be better placed to provide individuals with support and early intervention A closer working relationship with clients and case workers	Gwynedd Housing and Property Department	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 1 in the Safer North Wales Plan

	A private leasing scheme is being developed by the Homelessness Team to bring more private landlords as an option to re-house some people who are currently homeless, and to reduce the use of Bed & Breakfast accommodation.					
6	Implement the North Wales Prison in Reach Project funded by the APB. Will support people released from prisons throughout the UK back to North Wales, that has previously identified complex substance misuse problems	<p>2 x In-reach Co-ordinators in post.</p> <p>In order to ensure that each will have interventions in place prior to their release. These will be tailored to the individual's needs and will include, but are not restricted to housing requirements, benefits, and medicines.</p>	<p>The aim will for everyone to be better informed, supported and prepared for the period of transition back into the community.</p> <p>The co-ordinators will also be responsible for developing an assistance programme by peers from community coordinators which include volunteers who have similar lived transition experience, to make immediate contact 'at the gate'.</p>	Donna Jones (APB)	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Regional Substance Misuse Plan

7	Further development of cooperative outreach/harm prevention services in North Wales.	Transfer to an amended Improving Lives service model, as recommended in the recent service review. (subject to agreeing a funding offer from Welsh Government)	Amended service in place with increased capacity to better support the needs of those with Complex Needs involving Substance Misuse, Mental Health, and Housing.	Donna Jones (APB)	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Regional Substance Misuse Plan
8	We will ensure that responsibilities placed upon the CSP in relation to undertaking Domestic Homicide Reviews (DHRs) will be appropriately completed. Essentially, this means ensuring that appropriate review panels, chairs and authors are commissioned, and that final review reports are submitted and accepted by the Home Office.	Commission review panels, chairs, and authors for the DHRs Undertake the DHR and submit to the Home Office.	The responsibilities placed upon the CSP in relation to undertaking DHR reviews are appropriately completed. An action plan in place to respond to recommendations - lessons learned in order to improve services in the future	CSP	Ongoing	Priority 2 in the Safer North Wales Plan

9	<p>All the partnership members have some responsibilities in relation to the Home Office's <i>Prevent</i> programme (radicalisation in relation to terrorist activity). This work will be updated during the year in relation to developing and improving current Channel plans/training/requirements. This will entail working closely with the Home Office's new regional adviser.</p> <p>Anglesey County Council intends to incorporate the No Platform Policy to draw the attention of locations to the risk associated with them being used by groups/speakers who are known to be radical influencers and to work with North Wales partners in engaging with the voluntary and community sector (VCS) organisations and groups to raise awareness of Prevent.</p>	<p>Update the Prevent Plan. Arrange Prevent training sessions for the staff of Gwynedd and Anglesey Local Authorities. Review Channel Arrangements</p>	<p>Contribute to the regional CONTEST Board Action Plan</p> <p>Contribute to the Home Office's Prevent outcomes of reducing radicalisation</p>	CSP / Local Authority's relevant departments	Throughout 2023/24.	<p>The Home Office's Prevent Scheme</p> <p>Regional CONTEST Board Action Plan</p>
10	<p>Work on elements of the Serious Violence Duty. Share information and plan with relevant departments.</p>	<p>Develop a regional needs assessment in North Wales to note the burden and trends in the region in</p>	<p>Partners are aware of the responsibilities under the Duty and are better placed to deliver once it comes into force.</p>	CSP	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	<p>Priority 2 in the Safer North Wales Strategy</p>

		relation to violence Respond to the needs assessment as required in the form of a specific strategy				
11	CCTV camera bids to the Shared Prosperity Fund in Gwynedd and Anglesey.	Bids submitted to the fund in both counties.	If successful - enable the local authority to implement a variety of crime prevention approaches and increase the public's sense of safety	CSP	Q1 2023 and beyond if successful	Priority 1 in the Safer North Wales Plan Priority 4 in the Safer North Wales Plan
12	The Gwynedd Môn Youth Justice Service provides monitoring, screening, support and intervention to 10-17 year-old Children that have been identified by North Wales Police from antisocial behaviour incidents. Any child who is subject to an antisocial behaviour warning (yellow card) from NWP will be referred to the service, individual and random incidents will be recorded, evaluated and monitored. If a child receives a subsequent warning within 3	Support in the form of Assessment, Planning, Intervention, and presentation over a 12-week period (Child First and Trauma Informed) with	Reduce serious antisocial behaviour matters	Youth Justice Service	Throughout 2023/24.	Priority 1 in the Safer North Wales Plan

	months, the service will contact the family to outline the concerns and offer intervention and support to prevent further antisocial incidents or behaviour from escalating into crime.	the child's needs and strengths central to the implementation approach.				
14	<p>Training to all Additional Learning Needs and Inclusion (ALN&I) staff within the Education Service on the impact of trauma on children and young people through Trauma Informed schools. ALN&I Department, which is part of Gwynedd and Anglesey Education Departments to emphasise the impact of trauma in our schools and offer a Diploma course in this area. Training to all ALN&I staff within the field of Adverse Childhood Experiences (ACE) to be informed about these factors and the impact on children and young people, and the ability to develop key skills in responding to challenging behaviours.</p> <p>Collaboration with RASAC to present "Don't Steal y Future" sessions to pupils in years 10 and 11.</p>	<p>Introduce staff training.</p> <p>Collaborate with Gwynedd and Anglesey schools.</p>	Staff to be made aware of pupils at risk of adverse childhood experiences (ACE) and to raise pupils' awareness of everyone's potential and the opportunities to look to the future.	Additional Learning Needs and Inclusion Service (Education Service)	Throughout 2023/24.	Priority 1 in the Safer North Wales Plan

15	<p>Additional Learning Needs and Inclusion (ALN&I) Service within the Education Service to provide training on the impact of trauma on children and young people in households where a parent (parents) uses drugs.</p> <p>Collaboration with Be' di'r Sgôr in schools. The need for improved collaboration especially with young people that are excluded from school for drugs use and in cases where there is concern about individuals under the influence of others (County Lines)</p>	<p>Introduce staff training.</p> <p>Collaborate with the Youth Justice service to work with schools in cases of exclusions relating to drugs.</p>	Work with young people involved with drugs at school and prevent the influence of county lines.	Additional Learning Leads and Inclusion Service and the Youth Justice Service	Throughout 2023/24.	<p>Priority 1 in the Safer North Wales Plan</p> <p>Priority 3 in the Safer North Wales Plan</p>
16	Anglesey County Council was the author of Regional Multiagency Modern Slavery Pathways. These will be launched within the Local Authority in the new year. (Key steps, reflected in the corporate safeguarding action plan). Introduction of the mandatory Modern Slavery e-learning	Continue to present the training pack	Improved awareness in Local Authorities of Modern Slavery to enable effective referral to support services	Anglesey Council training departments	Throughout 2023/24.	Priority 2 in the Safer North Wales Plan
17	Monitor the progress of Ask and Act training - National Training Framework as required by the Domestic Abuse and Sexual Violence (Wales) Act 2015	<p>Continue to present the training pack</p> <p>Contact with the Regional Training</p>	Improved awareness in Local Authorities of domestic violence to enable effective referral to support services	Training departments in both counties	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 2 in the Safer North Wales Plan

		Development Officer and relevant training departments to monitor progress				
18	North Wales Fire and Rescue Service (NWFRS) will continue to present the Phoenix youth referral programme. Also undertakes interventions with young children who have shown a liking for fire – FACE (fire awareness child education).	Continue to present the intervention programme in the region	A reduction in fires/ASB A reduction in the number of repeat offenders	NWFRS	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 1 in the Safer North Wales Plan
19	Domestic violence continues to be a priority work area for the police with bespoke initiatives held periodically throughout the year, including awareness campaigns. Domestic violence related training is still provided across North Wales Police to all the workforce in order to increase awareness of the complex nature of domestic abuse.	Awareness campaigns and initiatives to be held by the Police Introduce staff training to the entire workforce	More awareness and availability of information about domestic violence support services to the public and across the Police	North Wales Police	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 2 in the Safer North Wales Plan

20	The Police will use a mobile visibility van during the summer months to improve community police presence in areas affected by antisocial behaviour and increased community tensions due to increases in the seasonal population.	Locate a van in the areas as noted	Improved presence in problematic areas Increase feelings of safety	North Wales Police	Summer 2023	Priority 1 in the Safer North Wales Plan
21	The police will undertake prevention initiatives in caravan parks over the summer period as these locations can be problematic in relation to sexual and domestic offences reports over the summer period.	Preparation work in the tourism meetings and reduce the seasonal demand from the Police Note relevant caravan sites Arrange and conduct visits to these sites	Support preventative work for sexual and domestic offences Reduction in these offences	North Wales Police	Summer 2023	Priority 2 in the Safer North Wales Plan
22	The work of the Integrated Offenders Manager will continue to focus on reducing the risk of reoffending.	The noted actions will be implemented locally	Locally delivered objectives	North Wales Police	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Regional IOM Plan

23	Ongoing partnership with Bangor University to improve safety on the streets. School Police officers continue to provide Hidden Injury (DA) and No Means No (sexual crime) lessons to local schools.	NWP provide lessons to Gwynedd and Anglesey schools.	Raising awareness about the domestic and sexual violence.	North Wales Police	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 1 in the Safer North Wales Plan
24	Present We do not buy crime – focusing on prevention, supporting victims and providing services for acquisitive crime.	Regular warning messages on social media and the Community with preventative advice on the subjects	Provide specific input to vulnerable sections of the community	North Wales Police	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 1 in the Safer North Wales Plan
25	Safer streets funding was used to increase Police visibility and design to prevent crime in Holyhead. Specific work relating to partners and raising awareness in local businesses as part of this response to Violence against women and girls in particular.	Collaboration with local businesses in Holyhead.	Improved presence in problematic areas Increase feelings of safety. Support preventative work for sexual and domestic offences Reduction in these offences	North Wales Police	Throughout 2023/24. Will be monitored in the quarterly CSP meeting	Priority 1 in the Safer North Wales Plan

Committee	Communities Scrutiny Committee
Date	22 nd February 2024
Title	Local Flood Strategy
Cabinet Member	Councillor Berwyn Parry Jones
Author	Steffan Jones, Head of Highways, Engineering and YGC
Purpose	Draft copy of the Local Flood Strategy

1. Introduction

- 1.1 Climate change is having a significant impact on flooding and erosion rates as sea levels are rising with storms and periods of heavy rain becoming more intense and occurring more regularly.
- 1.2 The Council has published its Climate and Nature Emergency Plan and the plan refers to how we as a Council want to respond to the effects of climate change, which includes the effects of flooding. The Local Flood Strategy and the Climate and Nature Emergency Plan will run together and help to realise our aim.
- 1.3 Managing Flood and Coastal Erosion Risk in Wales involves much more than building defences. Our approach to risk management encourages wider resilience, prevention and risk awareness so that better decisions can be made, by the public and those who influence how the land and water are managed.
- 1.4 A Local Flood Risk Management Strategy is one of the requirements of the Flood and Water Management Act 2010 and they must be consistent with the National Strategy published last year. We will be required to review Local Flood Risk Management Strategies in Wales (the original ones were done in 2013) in order to match the objectives, measures and policies and related legislation of the new National Strategy.

We will need to complete this task by Spring 2024.

2. Background and Current Situation

- 2.1 In October 2022 it was explained to this committee that the new Strategy would consider inland and coastal risks separately. This is because:
 - the nature of the risk and the ability to mitigate it;
 - difference in statutory and passive roles/responsibilities;
 - policies and strategies (including those of other agencies) together with differences in the funding structure of projects from the Welsh Government.

- 2.2 In November 2023 various extracts from the Strategy were shared with the committee, including a list of strategic objectives which serve as a basis to the document, along with a corresponding list of actions developed to enable the objectives to be realised over the period of the strategy.

3. New Arrangements/Procedures

- 3.1 We are now in a position to share a draft version of the Local Strategy along with a summarised version of the document (see Appendix 1, 2 and 3). Information included within the main document is as follows:

- Introduction, including purpose of the Strategy
- How the strategy responds to climate change
- Coordination i.e. alignment with other policies and plans
- Roles and responsibilities for managing flood risk
- Measures employed by Cyngor Gwynedd to manage risks
- Summary of historic flooding in Gwynedd
- Summary of flood and coastal erosion risks in Gwynedd
- Strategic Objectives and Actions
- Funding
- Works Programmes
- Monitoring progress
- Environmental impacts

- 3.2 A 6-week consultation exercise will commence on 26/02/2024 during which we shall seek the views of the public and partner authorities and organisations on the contents of the Strategy, in particular the following areas:

- Consideration of climate change on flood and coastal erosion risks
- Clarity of roles and responsibilities
- Methods used to estimate flood and coastal erosion risks
- Suitability of objectives and actions
- Methods proposed to develop capital work programmes.

4. Matters that have arisen from the Previous Committee (30th November 2023, Item 6.1)

- 4.1 It was suggested during the previous committee that the risk of highway flooding could result in a significant impact upon our communities (e.g. prevention of access for emergency services) and that the Strategy needed address these risks adequately.

In response, the Strategy now includes a specific action regarding flood risk to our highway network (Action 2.3A) which reads as follows:

Action 2.3A Initiate study to identify areas of the county highway network that are most vulnerable to flooding and will become more susceptible as a results of climate change effects in the future

Prevention of access towards populated areas during storm events is a significant risk to our communities and therefore a good understanding is needed of present day and future risks of flooding to the highway network so that measures to mitigate these risks can be considered.

Emphasis was also placed on the need to raise awareness amongst the public of the need to prepare for flooding in areas where risk is highest, and which measures can be employed at a household level to reduce flood risk.

- 4.2 Raising awareness of local flood and coastal erosion risk is one of the Strategic Objectives listed in the document and a series of associated actions have been proposed accordingly. In addition to these actions, we have now included clear references within the document to sources of information for property owners at risk of flooding, including the National Flood Forum website, and specific sections of Cyngor Gwynedd and Natural Resources Wales websites.

5. Next Steps

- 5.1 The consultation process will commence on the 26th of February for a period of 6 weeks, on completion of which the results will be analysed before any changes to the Strategy are considered.

Report to Scrutiny Committee	22/02/2024
Consultation exercise	6 weeks from 26/02/2024
Adoption of Strategy	Spring 2024

- 5.2 Following a discussion in the Communities Scrutiny Committee, any comments the committee has will be brought to the attention of the Cabinet.



Cyngor Gwynedd

Local Flood Risk Management Strategy DRAFT



Document Control Sheet

Document Title:	Local Flood Risk Management Strategy
Document Author(s):	Various
Project Ref / Title:	
Project Manager:	

Revision History

Date	Version No.	Summary of Changes
09/02/2024		

Reviews

Name	Title	Date	Version

Approvals

Name	Title	Date	Version

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ISO45001
OHS 526389

Local Strategy Template: Summary

Local Strategy Template: Main Document

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2.1 The need for a Local Strategy

2.2 The purpose of this Local Strategy

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

3. How this strategy responds to climate change

3.1 Climate change risk in our area

3.2 How our strategy addresses these risks

4. Coordination

4.1 How this strategy aligns with our other strategic plans

4.2 Coordination with others

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

5.1 Sources of flooding and key points of contact

5.2 Risk Management Authorities and their functions

5.3 Other responsible partners

6. How we manage flooding in our area

7. Flood and Coastal Erosion Risk Management Schemes

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15. Monitoring progress

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16.1 Strategic Environmental Assessment (SEA)

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Appendices

Appendix A Inland Flood Risk by Area

Appendix B Coastal Risk by Area

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1. **Foreword**

DRAFT

2. Introduction

2.1 *The need for a Local Strategy*

The *Flood and Water Management Act 2010*¹ 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)*² 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*³ (now revoked under the Retained EU Law Act).

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.

2.2 *The purpose of this Local Strategy*

We published our first Local Strategy in 2014, setting out our overarching approach to managing local flood risk. Alongside our Local Strategy, we published a FRMP. Our 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.

¹ <https://www.legislation.gov.uk/ukpga/2010/29/contents>

² <https://www.gov.wales/national-strategy-flood-and-coastal-erosion-risk-management-wales>

³ <https://www.legislation.gov.uk/uksi/2009/3042/contents/made>

In this document we identify the present day and future risks associated with flooding and coastal erosion. Our aim is to make the reader aware of all sources of flooding within their community, rather than focus only on the sources for which Cyngor Gwynedd act as RMA.

We also explain how these risks will be managed across our Local Authority area, consistent with the objectives, measures and related policies and legislation set out in the National Strategy.

This document considers inland and coastal risks separately, this is because there is often little correlation between the nature of the risks and the ability to mitigate them. Also there is a difference in statutory and passive roles/responsibilities, policies and strategies (including those of other agencies) between inland and coastal risks.

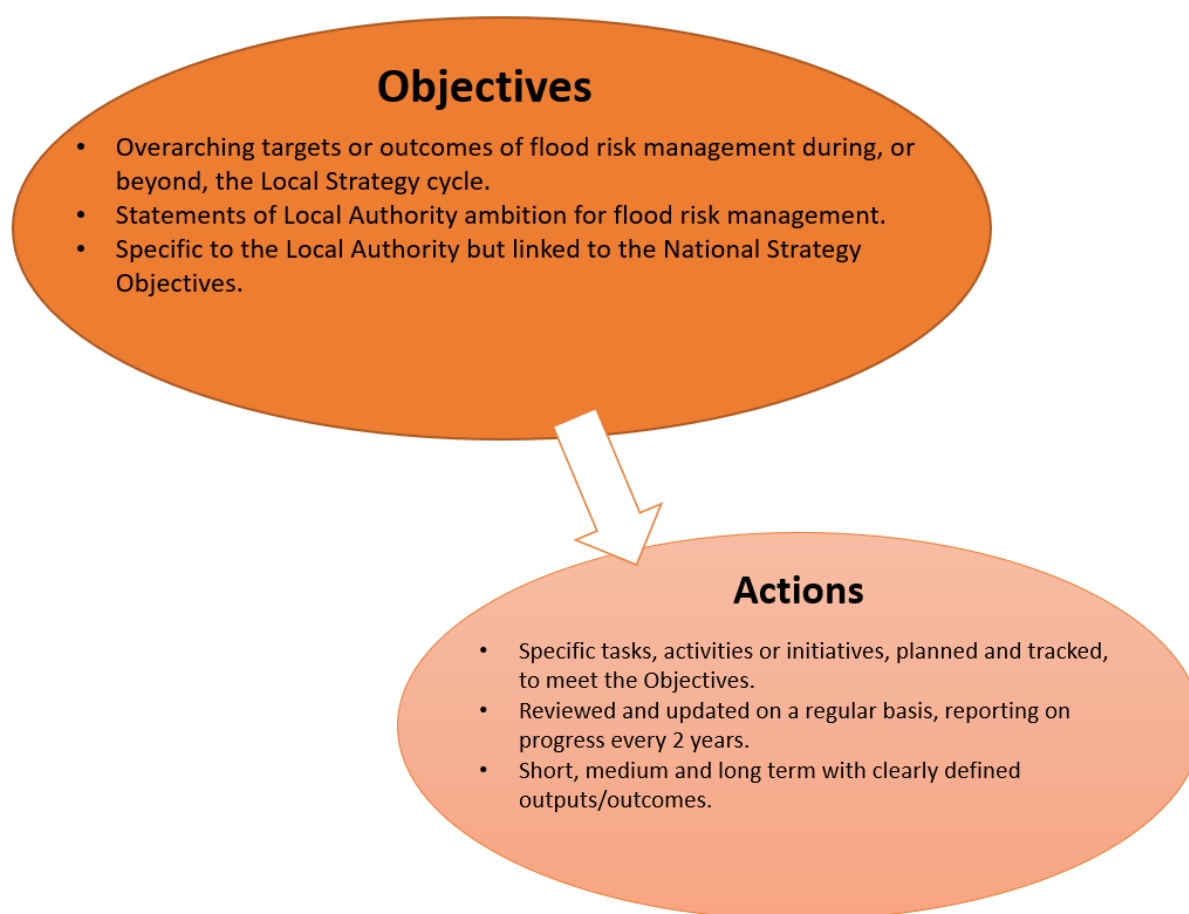
Furthermore, in order to segregate the risk across Gwynedd and help identify the areas of most concern we shall discuss inland flood risk by main hydrological catchments, of which there are 15 in total (see section 10 and Appendix A). Coastal risks are assessed and discussed according to specific lengths of the coastline termed as Management Areas (see section 10 and Appendix B).

This Local Strategy published on XXX will be reviewed in X years.

2.3 Targets within this Local Strategy – Objectives and Actions

This Local Strategy sets out our flood and coastal erosion risk management Objectives and Actions, listed in sections 11 and 12 respectively. These groupings provide different levels of detail on how risks will be managed, and the meaning of each is summarised below:

Figure 2.1: Description of Objectives and Actions as listed in this Local Strategy



3. How this strategy responds to climate change

3.1 Climate change risk in our area

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.

In March 2019 Cyngor Gwynedd declared its own climate emergency and vowed to take definitive steps to reduce carbon emissions and to work towards a carbon-free future. Subsequently the Council have published a *Climate and Nature Emergency Plan*⁴, which outlines the steps that we will take between 2022 and 2030 to reach our ambition of being a net zero council.

The level of flood risk to property across Gwynedd is expected to rise significantly in the future due to the effects of climate change, with an increase in frequency and depth of flooding to coastal and low-lying areas. Within Gwynedd we anticipate that an additional 2127 residential

⁴ <https://www.gwynedd.llyw.cymru/en/Residents/Climate-and-Nature.aspx>

properties will be at risk of coastal flooding over the next 100 years (up 50% from 4228 at present day), and additional 1826 residential properties face risk of fluvial or surface water flooding over this time period (up 35% from 5258 at present day). This in addition to an increase in the level of flood risk for properties currently located within flood zones. Detailed flood risk definitions and projections are provided in section 9 of this Local Strategy.

The *Climate and Nature Emergency Plan* acknowledges that measures need to be taken to manage the increase in flood risk to people and properties because of climate change. This Local Strategy will help to manage some of the effects of climate change in our area. The objectives and actions identified 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.

3.2 How our strategy addresses these risks

This Local Strategy has been developed to continually assess and manage flood and coastal erosion risks across Gwynedd into the future and will address the increase in risks due to the effects of climate change as part of this process. The following steps are key in embedding future climate change effects into the objectives and actions of this Local Strategy:

- The flood risk projections provided in section 10 have been derived from national flood maps (including *Flood Map for Planning*) which include an allowance for climate change effects, thereby enabling us to identify areas of Gwynedd that will face an increased flood risk into the future.
- Coastal studies or schemes that may derive from this Local Strategy will coincide with the policies for future coastal management identified within the West of Wales Shoreline Management Plan 2 (see section 4), which have been developed to manage the effects of future sea level rise upon our coastal communities.
- Studies or schemes to assess and/or address flood and coastal erosion risk within particular areas of Gwynedd in the future will make the correct allowances for climate change effects to be incorporated into the modelling and design process, based on the most up to date available guidance⁵

⁵ https://www.gov.wales/sites/default/files/publications/2022-11/guidance-for-flood-and-coastal-erosion-risk-management-authorities-in-wales_0.pdf

4. Coordination

4.1 How this strategy aligns with our other strategic plans

This Local Strategy is one of several strategic documents that influence how local flood risk is managed in Gwynedd. Some of the key local strategies and plans that have informed the development of this Local Strategy are listed below:

4.1.1 National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy)

The National Strategy sets out how the Welsh Government intend to manage the risks from flooding and coastal erosion across Wales. It sets objectives and measures for all partners to work towards over the 10 years from its publication in 2020. The links between this Local Strategy and the objectives and measures outlined in the National Strategy are outlined in section 6.

4.1.2 The Cyngor Gwynedd Plan 2023-28⁶

This plan outlines the Council's vision and priorities for the next five years by identifying a series of priorities and projects that will allow the Council to further develop and improve the services provided to the people of Gwynedd.

One of the priority fields within the plan involves protecting the county's natural beauty, and responding positively to the climate change crisis; and acting on flood risk is identified as an action to meet this priority. This Local Strategy will drive this action by identifying means to manage flood and coastal erosion risk for our communities into the future. Measures included in this Local Strategy should also enable delivery and success of the plan to be monitored over time.

The plan outlines the Council's well-being objectives which contribute directly to achieving the national well-being goals as defined in the *Well-being of Future Generations (Wales) Act 2015*⁷. Any schemes or studies that derive from this Local Strategy will be developed with full consideration of both local and national wellbeing objectives, as is a requirement of Welsh Government grant terms (see section 13).

⁶ <https://www.gwynedd.llyw.cymru/en/Council/Strategies-and-policies/Corporate-plans-and-strategies/The-Council-Plan/The-Cyngor-Gwynedd-Plan-2023-28.aspx>

⁷ <https://www.legislation.gov.uk/anaw/2015/2/contents/enacted>

4.1.3 *The Climate and Nature Emergency Plan*

This plan (discussed in section 3.1) was published in response to the Council's climate emergency declaration and outline the steps intended to be taken between 2022 and 2030 to reach our ambition of being a net zero Council.

This Local Strategy will complement the plan by contributing to a programme for responding to flooding risk, intended for future versions of the plan. Measures included in this Local Strategy should also enable delivery and success of the plan to be monitored over time.

4.1.4 *Anglesey and Gwynedd Joint Local Development Plan 2011 – 2026*⁸

This plan sets out the growth strategy, vision and the policies for development and land use for the Plan area, namely the Gwynedd and Anglesey Local Planning Authority area over the period from 2011 to 2026. The Plan has a significant influence on developments for the whole area as well as individual communities by providing guidance on matters such as the location of new houses, employment opportunities, leisure facilities and community facilities.

4.1.5 *Eryri Local Development Plan 2016 - 2031*⁹

The plan includes strategic policies and development policies which will deliver the long-term spatial vision for the future of Snowdonia National Park.

Cyngor Gwynedd Council and Snowdonia National Park Authority have reviewed their Local Development Plans and Review Reports have been published, which outline the need for a full review of the Local Development Plans. That meant the need to prepare new Local Development Plans. Cyngor Gwynedd has prepared a Delivery Agreement for Gwynedd's new Local Development Plan to be agreed with Welsh Government in the spring of 2024, and with a timetable of 3.5 years for the preparation of the plan as stated in the Development Plan Manual meaning that the new Plan should be adopted by the end of 2027.

With regard to flood and coastal erosion risk the replacement plans, including the Strategic Flood Consequence Assessment process, will be guided by the updated version of TAN15 (Development, flooding and coastal erosion) scheduled for publication in 2023, along with the information contained within the Flood Map for Planning. Any location specific actions contained within this Local Strategy or its accompanying works programmes will also be

⁸ <https://www.gwynedd.llyw.cymru/en/Council/Strategies-and-policies/Environment-and-planning/Planning-policy/Joint-Local-Development-Plan/Joint-Local-Development-Plan.aspx>

⁹ https://planning.snowdonia.gov.wales/policy/local-development-plan/?_gl=1*1k2umpy*_ga*NDQ3NjkyODI1LjE3MDMxNTcyMzY.*_ga_2SRYFPWD50*MTcwNjE5MzcxNC42LjEuMTcwNjE5MzcyMS4wLjAuMA..

considered during preparation of the replacement plans, so that decisions relating to flood and coastal erosion risks are based on the most up to date information.

4.1.6 West of Wales Shoreline Management Plan 2¹⁰

A 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 West of Wales SMP2 was prepared on behalf of the Cardigan Bay (now West of Wales) Coastal Group in 2009 and was subsequently adopted by the Council as a policy document in 2013.

The plan provides broad scale assessment of coastal risks, as well as quite specific advice to operating authorities in their management of defences, therefore the plan has a strong alignment with this Local Strategy and the way in which Cyngor Gwynedd is to manage their coastal structures into the future which ultimately dictates how flood and erosion risks will be managed for our coastal communities.

The West Wales shoreline is divided up into 309 short sections called 'Policy Units'. For each section, one of the following three policy options is recommended:

Table 4.1: Shoreline Management Policies as described in SMP2

No active intervention (NAI)	No investment in the construction of new defences, maintenance or upgrade of existing defences
Hold the line (HTL)	Keeping the line of defence in approximately the same location as it is now. Existing defences are maintained, replaced or upgraded along their current alignment. This may or may not include upgrades to counter climate change and sea level rise
Managed realignment (MR)	Landward retreat of defences, giving up some land to the sea to form a more sustainable defence in the long-term

To aid delivery of SMP2 policies an Action Plan was also published which recommends which actions should be taken at coastal areas to instigate a movement towards a more sustainable management approach and assigns a lead authority to each action. Coastal studies or schemes that derive from this Local Strategy will coincide with the policies for future coastal management identified within SMP2 and will link directly to actions assigned to Cyngor Gwynedd within the SMP2 Action Plan.

The method of identifying and prioritising FCERM improvement projects is described further in section 14.

Further information on the SMP2 and the SMP2 Action Plan can be found on the West of Wales Coastal Group website.

¹⁰ <https://www.westofwalescoastalgroup.wales/page/home-page>

4.2 Coordination with others

Cyngor Gwynedd are committed to working in partnership with RMAs, other stakeholders and local communities to achieve the flood risk objectives and actions in this Local Strategy.

Cyngor Gwynedd is adopting a catchment-based approach to managing flood risk, which promotes collaborative working and forward planning with other stakeholders to reduce risk of flooding whilst also delivering wider social, economic and environmental benefits. Exploring opportunities for catchment-scale interventions, including the implementation of Sustainable Urban Drainage Schemes (SuDS) and Natural Flood Management (NFM) measures, will form a large part of our commitment to working closely with partner organisations.

The Local Strategy has been developed and will be implemented in coordination with the strategic planning processes and plans of other RMAs. A summary of which is provided below:

4.2.1 Flood Risk Management Plan for Wales (FRMP)¹¹

The FRMP has been prepared by NRW to outline their priorities and subsequent actions for managing the risk of flooding in Wales. This FRMP covers flooding from rivers, reservoirs and the sea. It does not include flooding from surface water and smaller watercourses, for which LLFAs have powers and take the lead. This Local Strategy has been developed to complement the measures included within the FRMP, in particular the North West Wales Place section of the plan. As such Cyngor Gwynedd will work alongside our colleagues at NRW to ensure that the relevant authority takes the lead in managing flood and coastal erosion risks at various locations across Gwynedd, and to identify areas for collaborative working in the future.

Gwynedd specific schemes and studies contained in the FRMP are listed according to in Appendices A and B, to demonstrate the efforts made by different organisations to manage FCERM risks in each area.

4.2.2 Western Wales River Basin Management Plan (RBMP)¹² 2021-2027

The production of the West Wales RBMP by NRW is a requirement of the *Water Framework Directive 2000* (WFD). The management plan outlines the measures that NRW plan to implement to meet the requirements of the Directive which involve improving water quality, promoting sustainable use of water as a natural resource, and habitats and species conservation. In the development of this Local Strategy's objectives and actions, Cyngor

¹¹ <https://naturalresources.wales/evidence-and-data/research-and-reports/flooding-reports-evidence-and-data/flood-risk-management-plans/?lang=en>

¹² <https://naturalresources.wales/evidence-and-data/research-and-reports/water-reports/river-basin-management-plans/river-basin-management-plans-2021-2027/?lang=en>

Gwynedd have considered how it can assist, and benefit from, the delivery of the WFD objectives, particularly through the use of catchment scale interventions.

4.2.3 Drainage and Wastewater Management Plan (DWMP)¹³

The Drainage and Wastewater Management Plan (DWMP) is a long-term planning study by DCWW that looks at drainage and sewerage needs over the next 25 years as a minimum. The Plan looks at future trends and embeds an approach of working together with others to investigate and identify options for the sustainable management of DCWW's wastewater services. Cyngor Gwynedd as LLFA will continue to liaise with DCWW regarding opportunities to manage surface water flood risk for our communities as part of the Plan delivery and will welcome opportunities for partnership working.

¹³ <https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan>


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

5.1 Sources of flooding and key points of contact

The term 'flood and coastal erosion risk' covers all flooding from rivers, the sea, reservoirs, ordinary watercourses, groundwater and surface water, as well as coastal erosion. Figure 5.1 below summarises the different types of risks and the key points of contact in each case, with the specific role of different RMAs discussed further in section 5.2.

Table 5.1: Types of risks & who you should contact

	<p>River flooding (fluvial) tends to follow sustained rainfall resulting in high river levels and river banks being breached, or defences overtopped. It can also be caused by blockages where the river or stream flows within or beneath a structure such as a bridge or culvert.</p> <p>Contact CG as LLFA for flooding associated with Ordinary Watercourses</p> <p>Contact NRW for flooding associated with Main Rivers</p>
	<p>Surface water flooding (pluvial) happens when rainfall saturates the ground and drainage systems and excess water cannot drain away. Whilst more common in urban areas, it also affects rural communities, hitting transport, agriculture and the local economy. It can occur at any time of year: whilst winter sees more rain coming from Atlantic weather systems, the summer months bring an increased risk of flash flooding.</p> <p>Contact CG as LLFA</p>
	<p>Coastal flooding usually occurs when high tides combine with severe weather resulting in coastal or estuarine communities being flooded. A combination of significantly high tides, high on-shore winds and low atmospheric pressure can result in increase in tide level known as storm surge.</p> <p>Contact NRW</p>
	<p>Coastal erosion is defined as the wearing away of land by wave action, tidal currents, wave currents, drainage, weathering or high winds.</p> <p>Contact CG or NRW as Coastal Protection Authorities</p>
	<p>Sewer flooding is often caused by excess surface water entering the drainage network and exceeding the capacity of the sewer or failure of a sewer due to collapse or debris build up. During sewer flooding both foul and surface water can occur.</p> <p>Contact DCWW as the Water and Sewerage Undertaker</p>

	<p>Flooding from Roads occurs when the volume of rainwater does not drain away through existing drainage systems.</p> <p>Contact the North and Mid Wales Trunk Road Agency for flooding from trunk roads.</p> <p>Contact CG as the Highway Authority for flooding from other roads</p>
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5.2 Risk Management Authorities and their functions

As suggested above FCERM in Wales involves a number of organisations, including 28 RMAs which include NRW, the 22 Local Authorities, water companies, and the Welsh Government. Each RMA is required to fulfil a number of statutory duties, as defined under the *FWMA 2010*. 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.

The basic responsibilities of RMAs and key stakeholders in Wales are described in further detail below.

Welsh Government

Welsh Ministers set strategic direction and have overall responsibility for flooding and coastal erosion policy in Wales. As part of that role, the Welsh Government produces and publishes the National Strategy and ensures compliance and implementation of measures to achieve its objectives. It is responsible for FCERM legislation through powers under the *Government of Wales Act*. The Welsh Government manages the FCERM Programmes, including allocating budget to RMAs, appraising Local Authority schemes, and developing a programme of investment (see section 13).

Natural Resources Wales

Under the *FWMA 2010*, Natural Resources Wales is responsible for managing the risks of flooding from main rivers and the sea, and for regulating the safety of reservoirs. In addition, NRW also have a wider oversight role for all flood and coastal erosion risk management in Wales.

The oversight role is integral to the delivery of national policy on flooding and coastal erosion risk management and has been taken forward to ensure that Natural Resources Wales has the remit to support the Welsh Government across the full range of flood and coastal erosion risks affecting Wales. As part of their oversight role, Natural Resources Wales will lead on the provision of technical advice and support to other RMAs. They will also lead on national initiatives such as Flood Awareness Wales, the national raising awareness program, and be the single point of contact for enquiries and information on flood risk, via their Flood Line warning service. The *FWMA 2010* places a number of statutory duties on Natural Resources Wales including:

- Co-operating with other authorities, including sharing data;
- 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 carries out all Internal Drainage Board (IDB) functions in Wales and hence can also manage risks from ordinary watercourses in those drainage districts. Internal Drainage Districts within Gwynedd include Glaslyn and Penseflog, Llanfrothen, Dwyrdd, Harlech and Maentwrog, Ardudwy Marches, Mawddach and Wnion (E and W), Dysynni Valley and Tywyn.

NRW are also afforded permissive powers as a coastal erosion risk management authority under the *Coastal Protection Act 1949*¹⁴.

Cyngor Gwynedd

Further information on how the Council manages flood risk is provided in section 6 below.

Cyngor Gwynedd as LLFA are responsible for managing flood risk from surface water and ground water, or from ordinary watercourses. LLFAs have the following duties under the *Flood and Water Management Act 2010*:

- Prepare and maintain a Local Flood Risk Management Strategy for their areas, coordinating views and activity with other local bodies and communities through public consultation and scrutiny, and delivery planning. They must consult RMAs and the public about their strategy;
- Investigate significant local flooding incidents and publish the results of such investigations;
- Maintain a register of structures and features likely to affect flood risk
- Co-operate with other RMAs.
- Under Schedule 3 to the 2010 Act, Cyngor Gwynedd as the SuDS Approving Body¹⁵ (the SAB) have a duty to approve SuDS (Sustainable Drainage Systems) which follow the national statutory standards. With the exception of single-curtilage sites, the SAB also has a duty to adopt such systems.

¹⁴ <https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/74>

¹⁵ <https://www.gwynedd.llyw.cymru/en/Residents/Planning-and-building-control/Planning/Sustainable-Drainage-Systems.aspx>

Cyngor Gwynedd as LLFA has powers under the *Land Drainage Act 1991*¹⁶, which allow them to:

- Manage flood risk from ordinary watercourses.
- Manage flood risk from surface water or groundwater.
- Monitor, maintain, operate or repair works to manage flood risk from sea.
- All such works must be in accordance with this Local Flood Risk Management Strategy.

Coastal Local Authorities such as Cyngor Gwynedd are also designated as a Coastal Erosion RMA under the *Coast Protection Act 1949*, which gives them powers to protect the land against erosion or encroachment by the sea. Under the Act, the Council can do works to protect against coastal erosion and defend against sea flooding where they are best placed to do so and with approval from NRW. This is a power but not a duty. Cyngor Gwynedd are responsible for maintaining a total of 229 coastal erosion assets across 21km of the coastline, many of which are historic structure situated along our promenades and harbours, and some of which also provide a level of protection from coastal flooding.

The role of LLFA and Coastal Erosion RMA is discharged on behalf of Cyngor Gwynedd by the Water and Environment Unit within YGC (Highways, Engineering and YGC Department).

Cyngor Gwynedd have other important responsibilities relating to flood risk management:

- Cyngor Gwynedd are responsible for drainage of local highways under the *Highways Act, s100*¹⁷, whilst the Welsh Government has a responsibility for trunk road drainage.
- Under the *Civil Contingencies Act 2004*¹⁸, Cyngor Gwynedd are Category 1 responders giving them duties to:
 - maintain arrangements to warn the public, and to provide information and advice to the public, if an emergency is likely to occur or has occurred
 - play a lead role in emergency planning and recovery after a flood event and must have plans to respond to emergencies,
- Cyngor Gwynedd (along with Snowdonia National Park Authority) act as local planning authority and in doing so must have regard to potential risks associated with flooding and coastal erosion when developing local policies and determining applications for development. Specialist advice is provided by NRW and the Water and Environment Unit within YGC.

¹⁶ <https://www.legislation.gov.uk/ukpga/1991/59/contents>

¹⁷ <https://www.legislation.gov.uk/ukpga/1980/66/data.pdf>

¹⁸ <https://www.legislation.gov.uk/ukpga/2004/36/contents>

Dŵr Cymru Welsh Water

Dŵr Cymru Welsh Water (DCWW) is the regional water and sewerage treatment company serving Gwynedd. Water and sewerage companies are 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 caused by system failures.

Water companies, when exercising their flood risk management functions in relation to an area within Wales, must have regard to the relevant Local Strategies and any associated guidance. The *Flood and Water Management Act 2010* places a number of 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
- co-operate with other Authorities, including sharing data.

Water and sewerage companies often hold valuable information which could greatly aid the understanding of flood risks faced by communities across Wales. They are required to maintain a register of properties and areas that have suffered internal flooding, the DG5 register, but may have access to significantly greater information from incident records, previous investigations and hydraulic modelling.

5.3 Other responsible partners

Utility and Infrastructure Providers

Utility and infrastructure providers such as Network Rail, energy companies and telecommunication companies are not RMAs. However, they may have assets such as culverts, information about which needs to be shared with flood RMAs. They already maintain plans for the 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 so that their assets and systems are resilient to flood and coastal risks and that the required level of service can be maintained.

Riparian Owners

Landowners, householders and businesses whose property is adjacent to a river or a stream or a ditch are likely to be riparian owners, owning the land up to the centre of the watercourse with recognised legal rights and responsibilities.

Riparian owners have a right to protect their property from flooding and erosion as long as they do not exacerbate the situation for others elsewhere but in most cases will need to discuss the method of doing this with NRW or Cyngor Gwynedd. They also have responsibility for maintaining the bed and banks of the watercourse and ensuring there is no obstruction,

diversion or pollution to the flow of the watercourse. For further information regarding riparian rights and responsibilities see NRW's pamphlet *A guide to your rights and responsibilities of riverside ownership in Wales*¹⁹

Property Owners and Residents

Ultimately it is the responsibility of householders and businesses to look after their home or business, and this extends to protection of the property from flooding.

While in some circumstances other 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. Information and advice intended for owners of properties at risk of flooding is widely available, including the following sources:

The *National Flood Forum* website:

<https://nationalfloodforum.org.uk/about-flooding/reducing-your-risk/>

Natural Resources Wales website:

<https://naturalresources.wales/flooding/?lang=en>

Cyngor Gwynedd website:

<https://www.gwynedd.llyw.cymru/en/Residents/Parking-roads-and-travel/Flooding/Personal-flood-preparedness-and-resilience.aspx>

¹⁹ <https://naturalresources.wales/media/680422/living-on-the-edge-final-jan-2017.pdf>

6. How we manage flooding in our area

Cyngor Gwynedd manage the risk of flooding within its communities through a range of different methods, these are described in Table 6.1 below under the headings of Maintain, Plan, Respond, Regulate, Monitor and Inform.

Table 6.1: Methods adopted by Cyngor Gwynedd to manage risk of flooding and coastal erosion

Maintain	
<p>Cyngor Gwynedd are responsible for a variety of FCERM structures such as flood walls and overflow systems on rivers, and coastal walls and groyne fields. The Council retain a register of all FCERM assets within the Council's ownership and/or responsibility, which contains key information regarding the construction and function of each asset. The register is supported by a mapping system to display the location and extents of our assets and is updated to incorporate any changes in asset information as a result of improvement works.</p>	<i>YGC Water and Environment Service (as LLFA)</i>
<p>The condition of the Council's FCERM assets is assessed on a regular basis using industry standard techniques, for assurance that they remain in adequate condition to provide the desired standard of defence, and to identify any defects which could compromise integrity in the future. Routine inspections are supplemented by post-storm condition inspections.</p> <p>Additionally, a prioritised routine inspection schedule of the Council's flood risk management assets ensures that they remain unaffected by in-channel debris which could lead to asset failure and potential flooding incidents. Some assets are served by telemetry devices which enable asset status to be inspected remotely, and over time our aim is to develop our sensor network to incorporate more of our assets, and also to provide an alert to our staff when accumulation of debris may lead to asset failure (see Action 2.4A).</p>	<i>YGC Water and Environment Service (as LLFA)</i>
<p>Responsibility for all bridges and culverts on the local highway network which are inspected on a regular basis to ensure that they remain functional and do not pose a flood risk. The Council also maintain all highway gully's and drains on a cyclic programme and will undertake repairs or improvements as and when condition dictates in accordance with the Council's Highway Maintenance manual.</p>	<i>GC Highways Department</i>
Plan	
<p>Cyngor Gwynedd deliver FCERM improvement schemes to minimise the risk of local flooding or coastal erosion to our most vulnerable communities. Capital support for schemes of this kind is offered through the Welsh Government's FCERM Programme (see section 13). Application for Welsh Government funding is supported by business cases which demonstrate the level of flood and/or coastal erosion risk and provide clear and sufficient information to demonstrate that the preferred improvement option provides a sustainable, proportionate and economically viable solution to manage risk.</p>	<i>YGC Water and Environment Service (as LLFA)</i>

Further information of FCERM schemes delivered by Cyngor Gwynedd can be found in section 7.

By acknowledging that not all households can be protected from flooding through capital improvement schemes the Council also offer advice to concerned residents on measures that can be taken to reduce flood risk to their properties.

YGC Water and Environment Service

Respond

During a flood event Cyngor Gwynedd will take all reasonable measures to ensure that their network of county roads remain passable for vehicles, although storm conditions, extent of flooding and availability of resources may dictate that some roads will need to be closed to ensure safety of the public.

GC Highways Department

During severe rainfall events the Council will make every effort to distribute sandbags to residents that are at serious risk of flooding, although **residents are strongly advised to source their own flood risk management equipment when a known flood risk exists** as the ability of the Council to share sandbags could be severely compromised during periods of adverse weather when the priority is to keep the highway network open for emergency services.

GC Highways Department

Under the guidance of the North Wales Resilience Forum, and the measures included in the Multi-Agency Flood Plan, the Council will take appropriate action to support the emergency services and those engaged in emergency response; will assist with evacuation by arranging transportation; set up and manage rest centre arrangements and carry out clear up work in affected communities following flooding.

Various Council Departments

On becoming aware that a property has experienced internal flooding following severe rainfall or tidal events Cyngor Gwynedd undertake investigations to determine source and cause of flooding. When flooding is from a source for which the Council is not RMA (see section 5), information for the investigation may be obtained through consultation with a partner authority (usually NRW or DCWW).

YGC Water and Environment Unit (as LLFA)

Post-event flood investigations are a vital tool in establishing source and cause of flooding to our residents. Investigations allow us to build up an understanding of flood risk to our communities and also provide us with an opportunity to advise our most at-risk residents of any methods to manage the risk of flooding in the future

Regulate

Cyngor Gwynedd (along with Snowdonia National Park Authority) act as local planning authority and in doing so must have regard to potential risks associated with flooding and coastal erosion when developing local policies and determining applications for development.

GC Planning Department

The flood and coastal erosion risk associated with all planning applications received by Cyngor Gwynedd are assessed prior to determination, in accordance with the guidance provided in TAN15 (Development, flooding and coastal erosion), scheduled to be updated in 2023. Cyngor Gwynedd consult with colleagues at NRW and YGC Water

and Environment Unit (as LLFA) on all proposed developments for which flooding and/or coastal erosion is a material consideration.

Cyngor Gwynedd as the SAB have a duty to approve SuDS (Sustainable Drainage Systems) which follow the national statutory standards. SAB approval is required for any development with a footprint greater than 100m². Apart from single-curtilage sites, the SAB also has a duty to adopt such drainage systems.

*YGC Water
and
Environment
Unit (as LLFA)*

In accordance with Schedule 3 of the Flood and Water Management Act Cyngor Gwynedd deliver the role of SuDS (Sustainable Drainage Systems) Approval Body for all qualifying developments. This ensures that all new developments with drainage implications meet the national SuDS standards to reduce the risk of surface water flooding and realise all other associated benefits (ecological, amenity, water quality). Over time the SAB will become responsible for maintaining more SuDS systems and therefore existing asset management systems will be expanded to include all elements adopted by the Council.

Under section 23 of the Land Drainage Act Cyngor Gwynedd are responsible for authorising consent to individuals, developers or authorities who wish to carry out changes to an ordinary watercourse that may affect flow or flood risk. Cyngor Gwynedd are provided further powers to regulate activities on or surrounding ordinary watercourses through the Land Drainage (Cyngor Gwynedd) Bylaws. A copy of the bylaws and the Council's position statement can be found on our website²⁰

*YGC Water
and
Environment
Unit (as LLFA)*

In many instances the partial or full blockage of a watercourse can result in flooding to land or in the worst-case properties, businesses and/or critical infrastructure. Where Cyngor Gwynedd have been made aware of a potential blockage or obstruction to an ordinary watercourse we will look to work with all parties involved to help resolve the problem before considering the use of permissive enforcement powers afforded under the Land Drainage Act.

*YGC Water
and
Environment
Unit (as LLFA)*

Monitor

The Welsh Coastal Monitoring Centre is funded by the Welsh Government and delivers a standard, coastal monitoring programme on behalf of Welsh RMAs to provide the evidence necessary for FCERM decisions. Cyngor Gwynedd monitor beach levels at critical locations along the coastline as part of the national programme. This programme is supplemented by some additional local surveys and also post-storm surveys to identify any large fluctuations in beach levels that may pose immediate risks to coastal assets.

*YGC Water
and
Environment
Unit*

²⁰ <https://www.gwynedd.llyw.cymru/en/Residents/Parking-roads-and-travel/Flooding/Ordinary-watercourses-land-drainage-consent.aspx>

7. Flood and Coastal Erosion Risk Management Schemes

Over recent years, and since publication of the previous Strategy, Cyngor Gwynedd in their role as LLFA (and Coastal Erosion RMA) have carried out works to reduce the risk of flooding and coastal erosion to many communities across Gwynedd. Some of the most notable schemes are described below. These improvements have been completed using grant in aid from Welsh Government FCERM programmes described in section 13 of this Local Strategy.

In delivering this Local Strategy the Council hope to complete similar flood risk management improvement into the future which will safeguard more of our residents from the risks of flooding and coastal erosion.

Tywyn Coastal Defence Scheme

2011

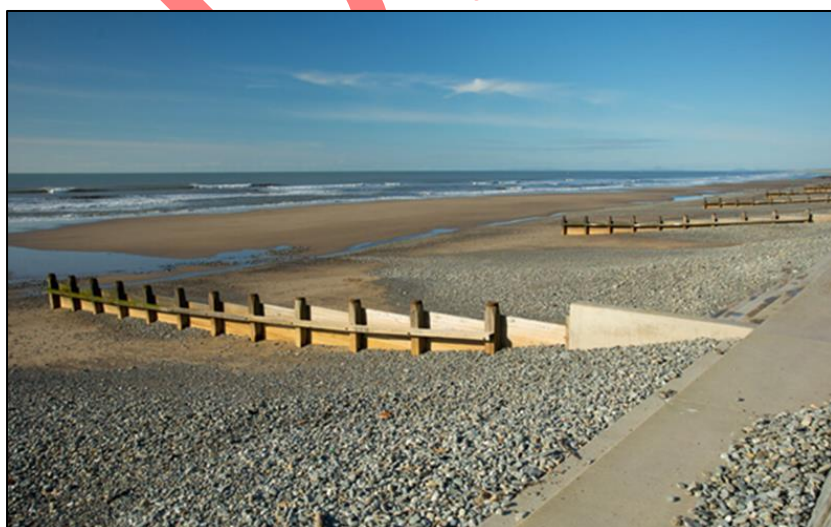
Background

Tywyn coastal frontage has suffered significant storm damage since it was first constructed in the 1930s. Over years the width of the beach had decreased and the beach level had dropped significantly. Erosion of the beach, combined with deterioration of the groynes contributed to the undermining of the sea wall and an increase in flooding. Cyngor Gwynedd is responsible for all coastal structures on the Tywyn frontage.

Scheme Description

The completed scheme included an offshore breakwater and new rock groynes to stabilize beach levels. Refurbishment of the sea wall, restoration of the stepped revetment and new shorter timber groynes were now possible, extending the design life of the flood defence structures and substantially improving access to the beach.

Not only was the scheme designed to reduce the risk of flooding for 78 homes and various businesses, but it has transformed the beach from its dilapidated condition to a fully improved amenity with greater access to the beach, which will be a boost to tourism, business prospects and regeneration opportunities.



Tal-y-Bont Flood Alleviation

2016

Background

Extensive flooding history of flooding existed at Talybont near Bangor. The most notable events occurred in 1987, November 2012 and most recently Boxing Day 2016. The flooding affected up to 30 properties and closed the A55 for 12 hours.

Scheme Description

The scheme consisted of 700m of new cut off channel/culvert across farmland to the north of Tal-y-Bont and the A55 trunk road to intercept catchment flows which historically flow under the A55 and through the village. 3 large concrete structures were installed to aid the transition of flow from watercourse to culvert, open channel then outfall to the River Ogwen directly upstream of the A55 Ogwen Viaduct. Sensors were installed to inform the Council of potential blockages at the new intake structure which could compromise performance of the scheme during heavy rainfall events.



Borth Y Gest Flood Alleviation Scheme

2018

Background

Situated on the northern side of the Glaslyn estuary Borth y Gest has suffered a number of coastal flooding events. The floods were a result of the sea breaching the footpath on the north side of the frontage and flowing along the highway and into both residential and commercial properties.

Scheme Description

The scheme consists of ~170m new sea walls to join onto the main wall that has existed in the bay since the 1800s, thereby providing flood protection from one end of the bay to the other. The new wall was designed to be able to withstand hydrostatic pressures from the sea and wave action.

The walls were constructed from reinforced concrete clad in local slate (from Blaenau Ffestiniog) and were cast in situ using bespoke formwork for each section of the wall. The walls also included two flood gates at the slipway and pedestrian access, and a number of drainage holes with non-return valves through the wall to allow any surface water to be drained away.

In combination with the wall extensions to protect against tidal flooding, a non-return gate was also installed on the inlet of the Afon Llety watercourse. This was to provide protection to the village from tidal waters backing up through the culvert and posing a flooding risk.



Pont Ddol – Llanberis Flood Alleviation Scheme

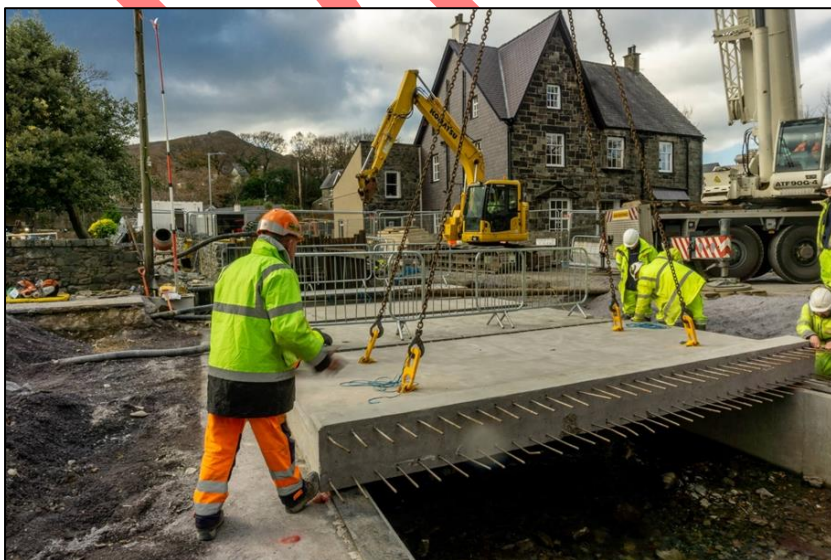
2019

Background

The Afon Goch flows through the centre of village and discharges into Llyn Padarn. Due to the steepness of catchment area, the river responds quickly to rainfall, and the river can rise rapidly. The village has flooded in the past, with the most recent flooding in 2012 affecting 81 properties near the centre of the village. This was caused by a particularly heavy rainfall and a blockage at Pont Ddol, with the river breaking its banks upstream as a result.

Scheme Description

The old Pont Ddol structure was an old masonry arch bridge, with two reinforced concrete slab extensions to provide footways for the high street. The bridge opening had a cross sectional area of 1.8m^2 and was prone to blockage from debris washed downstream. A replacement bridge was designed which had a greater span, thinner deck, and removed the arch section. This resulted in an increased opening of nearly 6m^2 , resulting in improved conveyance in a flood, and reduced water levels upstream.



Background

All properties along Beach Road have views towards the Menai Strait and Anglesey, with the grassed area between the road and the strait being used for community activities, including a playground, seating and hosting the annual Felinheli Festival. Beach Road is also the route of the Wales Coastal Footpath as well as Systrans's Cardiff to Holyhead cycle route 8. Properties along Beach Road have been subject to periodic flooding despite a historic land-reclamation programme from the mid-1900s as well as the addition of a new sea wall in the 1970s. On analysis, Cyngor Gwynedd identified Beach Road as being at significant tidal flood risk, with that risk expected to increase substantially over the coming century due to climate change induced sea level rise. Of the 65 homes and businesses along Beach Road, 58 were identified as being at flood risk in a 0.5% probability flood event (1 in 200 year return period).

Scheme Description

The design brief for a scheme to reduce the flood risk to Beach Road identified that, as well as providing a high standard of protection for as many properties as possible, conserving and enhancing the area's natural beauty and its use as a recreational amenity area were critical. The preferred option – a sea wall – therefore needed to be perform its function of preventing ingress of tidal water whilst at the same time not detracting from the natural beauty of the location and ensuring that access to the recreational area is not compromised.

The preferred option involved a new set-back sea wall along a 250m length of the frontage, positioned directly between the open grassed area and Beach Road itself. The wall was designed to be in-keeping with the local setting and includes 6 tidal gates to maintain access towards the frontage, which form part of the defence and have been specifically designed to ensure longevity in a marine environment. The gates are operated by a local group of volunteer Flood Wardens.



Background

Rhostryfan has suffered a number of flood events since the early 1980s, most recently in 2012. The River Wyled flows from the upper catchment through the village through a significantly altered river channel. The channel has high stone walls, a number of bridge crossings and a 30m length culvert. These structures were pinch points along the river and were prone to blockage due to the size restrictions below the structures. At the mouth of the culvert there was a debris screen which was prone to blockage from woody debris and gravel washed down from the upper catchments. Combined with significant structural defects within the culvert, which was made from large stones with a slate soffit, the culvert and screen posed a significant risk of flooding to the village.

Scheme Description

The scheme consisted of replacement of a vehicle bridge, a foot bridge, removal of other informal crossing over the river, river bank repairs, upgrade of the culvert and removal of the debris screen. The implementation of the scheme would reduce the risk of river flooding to 38 residential properties up to an including the 1 in 100 year event with an allowance for climate change. The culvert was replaced with 15 box culvert units under the square in the village which meant that the debris screen could be removed. The culvert replacement increased the capacity from the old culvert by 4 times. The two bridges were replaced with precast bridges and lifted into place. All excavated material was taken to a local quarry for recycling and was used to repair a local football clubs car parking area. The scheme took 12 months to complete with a final cost of £1.9M.

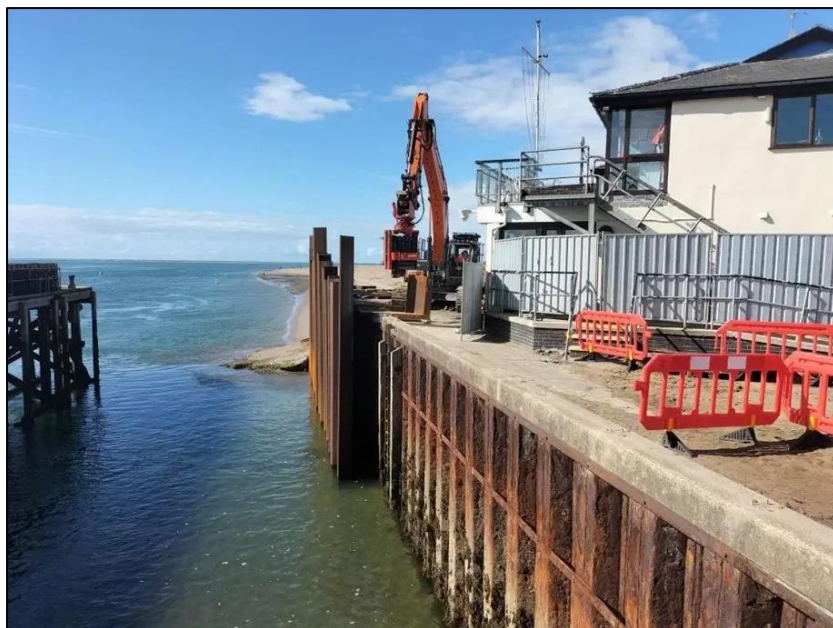
**Background**

The quay wall in Aberdyfi is located in the heart of the village, the structure on the wharf is crucial to a wide range of harbour activities which contribute significantly to the local economy. Over the years, the state of steel sheet piles steel has been deteriorating, and the situation was constantly monitored by the Coast Protection Unit. As part of the monitoring arrangement, a report was commissioned in October 2012, this report stated that the structure was nearing the end of its life and a new quay wall was needed in the next few years.

Scheme Description

The project involved the installation of a new sheet pile line in front of the existing piles that had deteriorated significantly. The anchor ties were extended to support the new piles. The top of the existing piles including the capping beam was removed and the new wharf surfacing cast over the top of the original pile line.

The new pile face incorporated inset stairs to complement traditional ladder access down the piles to allow safer access for users.



Wnion catchment Natural Flood Management

2022

Background

Gwynedd Council and Snowdonia National Park Authority collaborated on a project aimed at introducing NFM measures within an area of the Afon Wnion catchment near Rhydymain. The project made use of Welsh Government funding with the objectives of reducing peak surface water run-off and introducing multiple ecological benefits. The project ran from 2020 to 2022. The project was set up collaboratively to make best use of expertise. SNPA had a prominent role in the project as main liaison for landowners due to close relationship with the industry, woodlands and hedges expertise as well as providing ecological advice.

Scheme Description

Natural Flood management is a term used to describe works that seeks to alleviate peak waterflows through natural controls to prevent flooding downstream. Works include but not exclusive – planting of trees and hedges, creation of ponds for attenuation, sediment traps and blocking of drainage ditches on uplands (see photos below).



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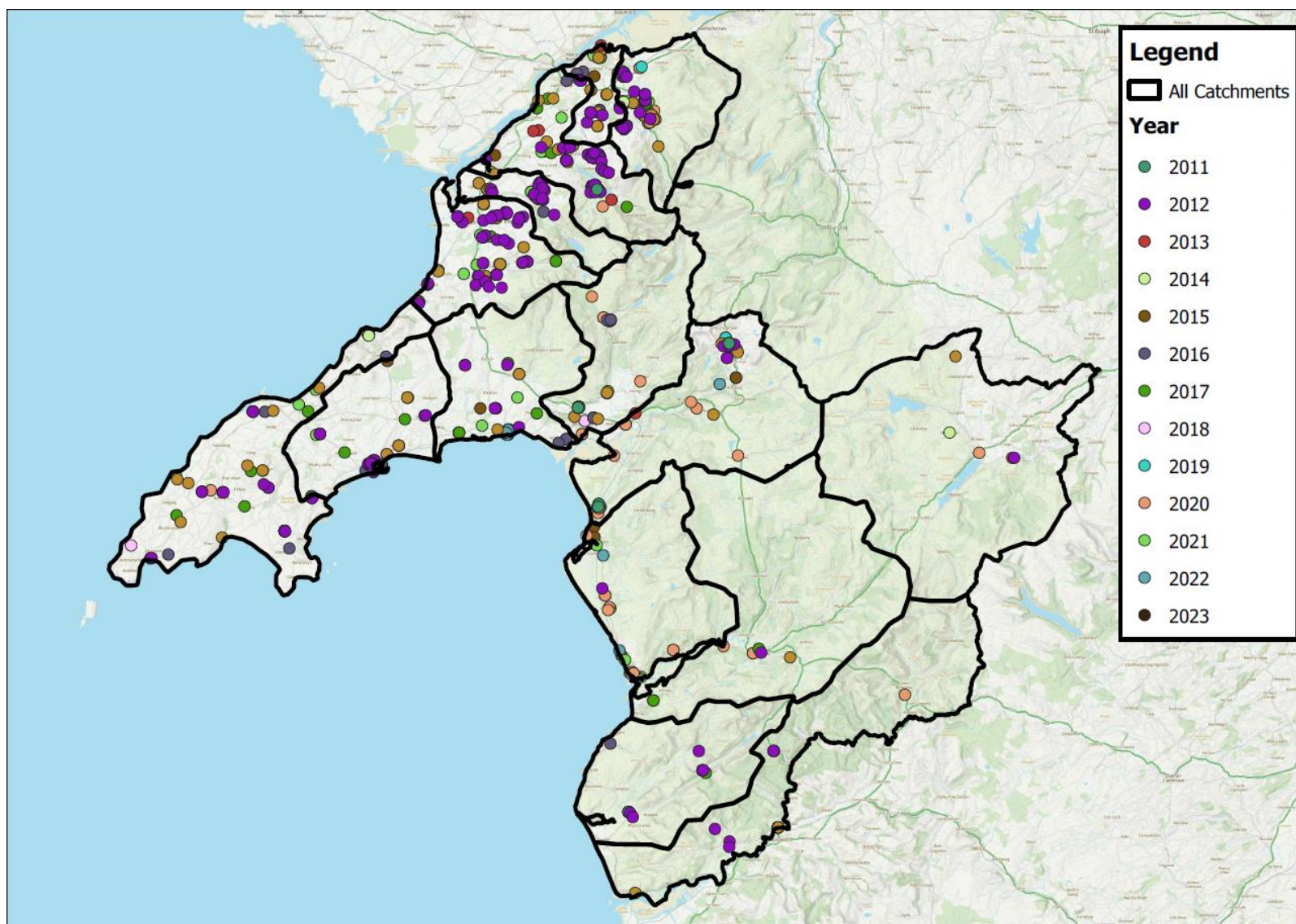
8. Historic flooding in Gwynedd

Since adopting the role of LLFA in 2010 Cyngor Gwynedd have a duty to investigate incidents of flooding to property, and as such have a comprehensive record of flooding incidents that have been brought to our attention from this date. Historic flooding problems exist from different sources across all areas of Gwynedd, with rainfall patterns and local conditions dictating which areas suffer most damage during any given storm event. Table 8.1 summarises the number of properties that have flooded within Gwynedd during each year from 2010 and also shows which areas have suffered multiple property flooding during this period. Figure 8.1 shows the distribution of known historic flood incidents. Most of the incidents on record are associated with fluvial (mainly ordinary watercourse) or surface water flooding sources. Further details regarding the cause and nature of these flooding incidents are held by the Council.

Table 8.1: Flood incident records held by Cyngor Gwynedd between 2011-2023

Year	Total properties flooded	Areas mainly affected
2011	11	Tremadog (5)
2012	357	Llanberis (81) Pwllheli (35) Deiniolen (35) Mynydd Llandygai (17) Talybont (17) Llanllyfni (11) Nantlle (10) Rhostryfan (8) Groeslon (7) Dinorwig (6)
2013	12	No obvious clusters
2014	20	Trefor (11) Pwllheli (6)
2015	111	Bontnewydd (9) Tremadog (9)
2016	34	No obvious clusters
2017	56	No obvious clusters
2018	4	No obvious clusters
2019	13	Pwllheli (6)
2020	102	Beddgelert (47) Bethesda (13)
2021	46	Barmouth (7)
2022	38	Criccieth (26)
2023	19	No obvious clusters

Figure 8.1: Distribution of flood incident records held by Cyngor Gwynedd between 2011-2023



9. What is the risk of flooding in Gwynedd?

9.1 How we assess flood and coastal erosion risk

This section will provide information regarding the number of residential properties, non-residential properties and essential services considered to be at risk from flooding in Gwynedd. Not all properties or receptors identified as being at risk will have experienced flooding in the past, however they are located within a specific band of flood risk according to the national-scale flood modelling exercises described below.

Table 9.1 below summarizes the type of receptors that form part of the assessment, which we feel best represent the severity of flood risk to our communities. Receptor data has been retrieved from the *National Receptor Dataset*²¹ which is a spatial dataset of risk receptors primarily intended for use in FCERM.

Table 9.1: Type of receptors considered when establishing flood and coastal erosion risk across Gwynedd

Category	Receptor type
Residential	Dwelling House in Multiple Occupation Residential Institution
Essential services	Education Industrial (Recycling plant only) Medical Office (government) Utility Emergency rescue service
Non-residential	Agriculture Community services Hotels Industrial (except recycling plant) Leisure Animal centers Office (except government) Retail Military Place of worship

As discussed in section 5 flooding can occur from several sources and different authorities are assigned as RMA according to the source of the risk. For the purpose of this Local Strategy, we intend to highlight the risk of flooding from all natural sources (i.e. excluding sewer, reservoir) regardless of leading RMA. Some receptors may well be susceptible to flooding from more than one source, but this can complicate explanations and data presentation, so flood risk sources have been divided into two broad categories:

²¹[https://support.environment.data.gov.uk/space/DPK/15859733/How+Can+I+Get+A+Copy+Of+The+National+Receptors+Dataset+\(NRD\)%3F](https://support.environment.data.gov.uk/space/DPK/15859733/How+Can+I+Get+A+Copy+Of+The+National+Receptors+Dataset+(NRD)%3F)

- inland (watercourses and surface water)
- coastal

To identify areas and receptors at risk of flooding we have used information obtained from the national flood maps developed by NRW; these include the *Flood Risk Assessment of Wales* (FRAW²²) map and also the *Flood Map for Planning* (FMfP²³), both of which are considered as the most up to date high level flood risk assessment product available in Wales. Flood outlines were retrieved from these maps during January 2024.

The level of flood risk to any area, and subsequently to any receptor, is described as the likelihood or ‘chance’ of flooding in any year. There are three risk categories provided by FRAW that are summarised in Table 9.2 below. To consider future changes in flood risk across Gwynedd as a result of climate change we also incorporate an additional level of flood risk, which includes areas not considered to be at present day flood risk (up to 1 in 1000 or 0.1%) but are expected to face risk of flooding over the next century, mainly due to forecasted sea level rise.

Table 9.2: Flood risk categories used in our assessment

Level of flood risk	Likelihood of flooding
High	This area has a chance of flooding greater than 1 in 30 in any given year (annual probability of flooding 3.3%)
Medium	This area has a chance of flooding between 1 in 100 (1%) and 1 in 30 (3.3%) in any given year
Low	This area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%) in any given year
Climate Change	Expected to be at risk of flooding due to climate change effects (mainly sea level rise)

Our assessment identifies the number of receptors within each flood risk band for a particular area but does not consider the depth or velocity of flood water to any receptor. Also, as we don’t have information regarding floor heights or construction fabric of each receptor there is no way to determine at which flood depth they may become truly susceptible to ingress of flood water.

The risk assessment takes into account the effect of flood defences where information is available. Flood defences reduce, but do not completely stop the chance of flooding as they can be overtopped or fail.

²² <https://naturalresources.wales/flooding/check-your-flood-risk-on-a-map-flood-risk-assessment-wales-map/?lang=en>

²³ <https://naturalresources.wales/flooding/flood-map-for-planning-development-advice-map/?lang=cy>

Properties at risk from coastal erosion (see Table 9.4) have been estimated using information from the National Coastal Erosion Risk Management (NCERM) maps, using erosion rates for the long-term scenario assuming no active intervention to protect the coastline and applying figures from the 'medium' confidence level estimates. Further information regarding the data displayed on the NCERM maps is contained on NRW's website²⁴.

9.2 Overview of flood risk in Gwynedd

This section provides an overview of inland and coastal flood risk across the whole of Gwynedd according to the assessment described above.

9.2.1 Inland flood risk in Gwynedd

Table 9.3 summarises the number of residential properties within various inland flood risk zones across Gwynedd and Figure 9.1 displays the geographic spread of these properties as a heatmap; for this map the transparency of each receptor has been adjusted according to level of flood risk, i.e. a cluster could represent an area with a high number of low risk receptors, or alternatively a relatively low number of high risk receptors.

Table 9.3: Summary of properties at risk of inland flooding across Gwynedd

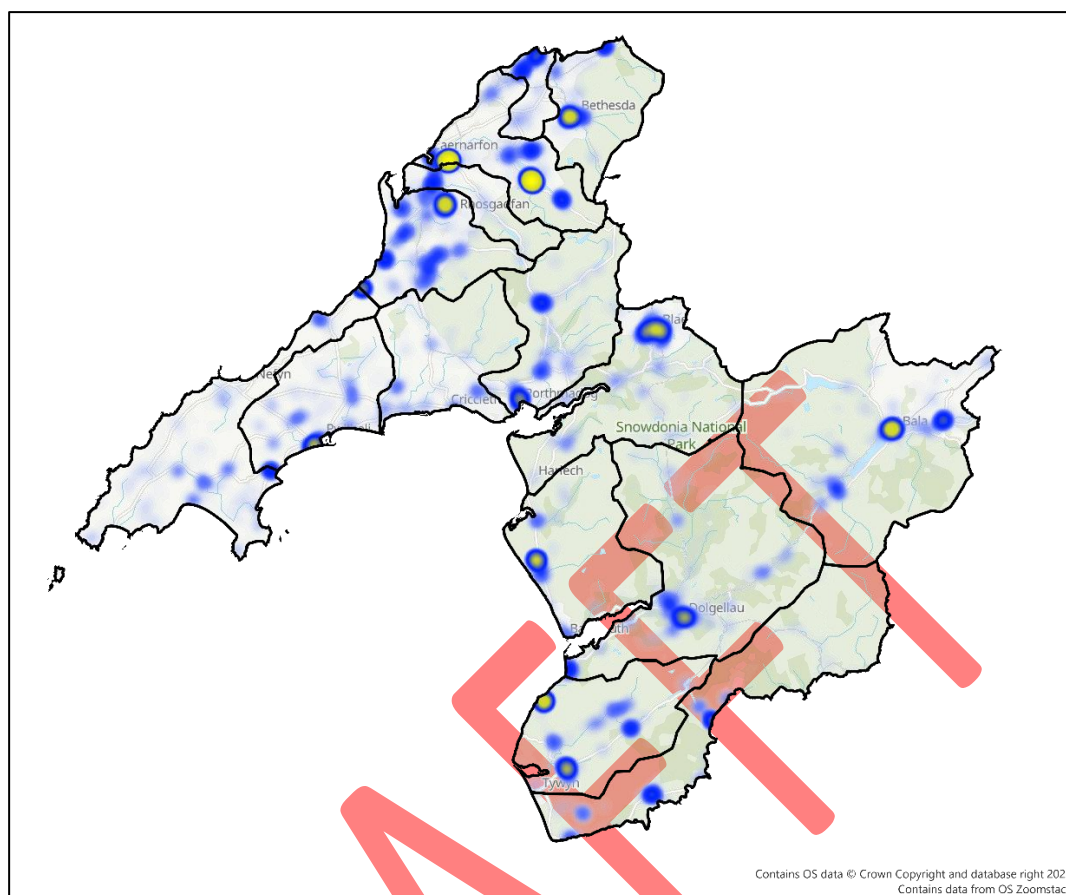
Total	Number of properties at flood risk				Number of Essential Services / Non-residential properties at flood risk
	High risk	Medium risk	Low risk	Very Low risk	
7084	1048	721	3489	1826	2023

Figure 9.1 demonstrates that inland flood risk is generally spread across the whole of Gwynedd, except for the most mountainous and rural areas. As expected, the largest concentrations of flood risk receptors are located within the most populated areas, with obvious hotspots occurring at Caernarfon, Llanberis, Bethesda, Blaenau Ffestiniog and Y Bala; and in most of these cases the risk is linked to large watercourses flowing through or nearby populated areas. In general, areas where a high number of properties are at risk from a single source are afforded protection in the form of flood defences (e.g. Bala, Porthmadog, Pwllheli), however this is less often the case where source of flooding is more sporadic.

Table 9.3 suggests that the effects of climate change could be prominent in the future with an increase of 35% in the number of properties at risk from inland flooding; this in addition to an increase in the level of flood risk for present day receptors.

²⁴ <https://naturalresources.wales/flooding/check-your-coastal-erosion-risk-national-coastal-erosion-risk-management-map/?lang=en>

Figure 9.1: Geographic spread of properties at risk of inland flooding as a heatmap (description above)



9.2.2 Coastal flood risk in Gwynedd

Table 9.4 summarises the number of properties within various coastal flood risk zones across Gwynedd and similarly Figure 9.2 displays the geographic spread of these receptors as a heatmap, with a similar representation of different flood risk levels as described above.

According to Figure 9.2 the areas of highest coastal flood risk are centred around highly populated lowland locations, where large rivers such as the Dysynni, Mawddach, Dwyrdd, Glaslyn, Rhyd-Hîr and the Erch enter Cardigan Bay. There are also areas of increased flood risk in the populated centres along the southern edge of the Menai Strait, including Caernarfon, Y Felinheli and Bangor. Most of the areas at risk of coastal flooding are defended from inundation, however the standard of protection afforded by defences will vary between different areas, and defences in general are not adequate to withstand increase in sea level expected because of climate change. Furthermore, future shoreline policies outlined in SMP2 may dictate that certain defences are gradually abandoned or moved in-land, which would change the flood risk profile of coastal areas over time as a result.

Figure 9.2: Geographic spread of properties at risk of coastal flooding as a heatmap

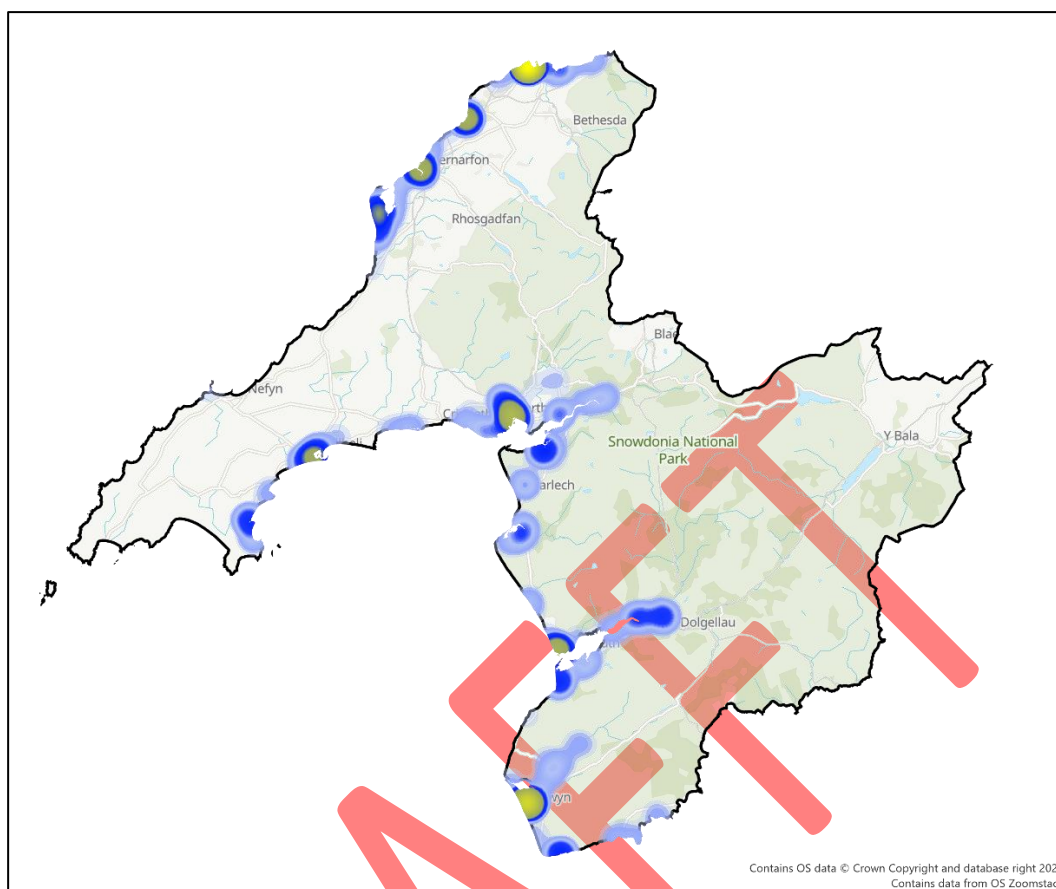


Table 9.4: Summary of properties at risk of coastal flooding and erosion across Gwynedd

Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Properties at risk of coastal erosion
Total	High risk	Medium risk	Low risk	Very Low risk		
6355	520	237	3471	2127	1864	508

Table 9.4 suggests strongly that unmitigated effects of future sea level rise could be significant for coastal areas, with an increase of 50% in the number of properties expected to be at risk of flooding; as per the inland scenario this figure is in addition to the increase in flood risk level expected for present day receptors. The number of properties estimated to be at risk from coastal erosion is also contained in Table 9.4, although the distribution is not represented in Figure 9.2.

10. Risk by Area

10.1 *Inland risk by Catchment*

This section dissects the flood risk information provided in section 9 further by looking at flood risk within specific areas. To segregate the risk across Gwynedd and help identify the areas of most concern we shall discuss inland flood risk by main hydrological catchments, of which there are 15 in total. Figure 10.1 below shows the location and extent of all catchments described. Table 10.1 provides the number of receptors at risk of flooding for each catchment respectively.

Appendix A provides further information regarding the nature and setting of each catchment along with a description of the spatial distribution of flood risk zones, and how this corresponds with location of defences and historic flood records.

For a more detailed view of flood risk distribution within an area of interest the reader is referred to the Flood Risk Assessment Wales maps on NRW's webpage.

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Figure 10.1: Hydrological catchments in Gwynedd

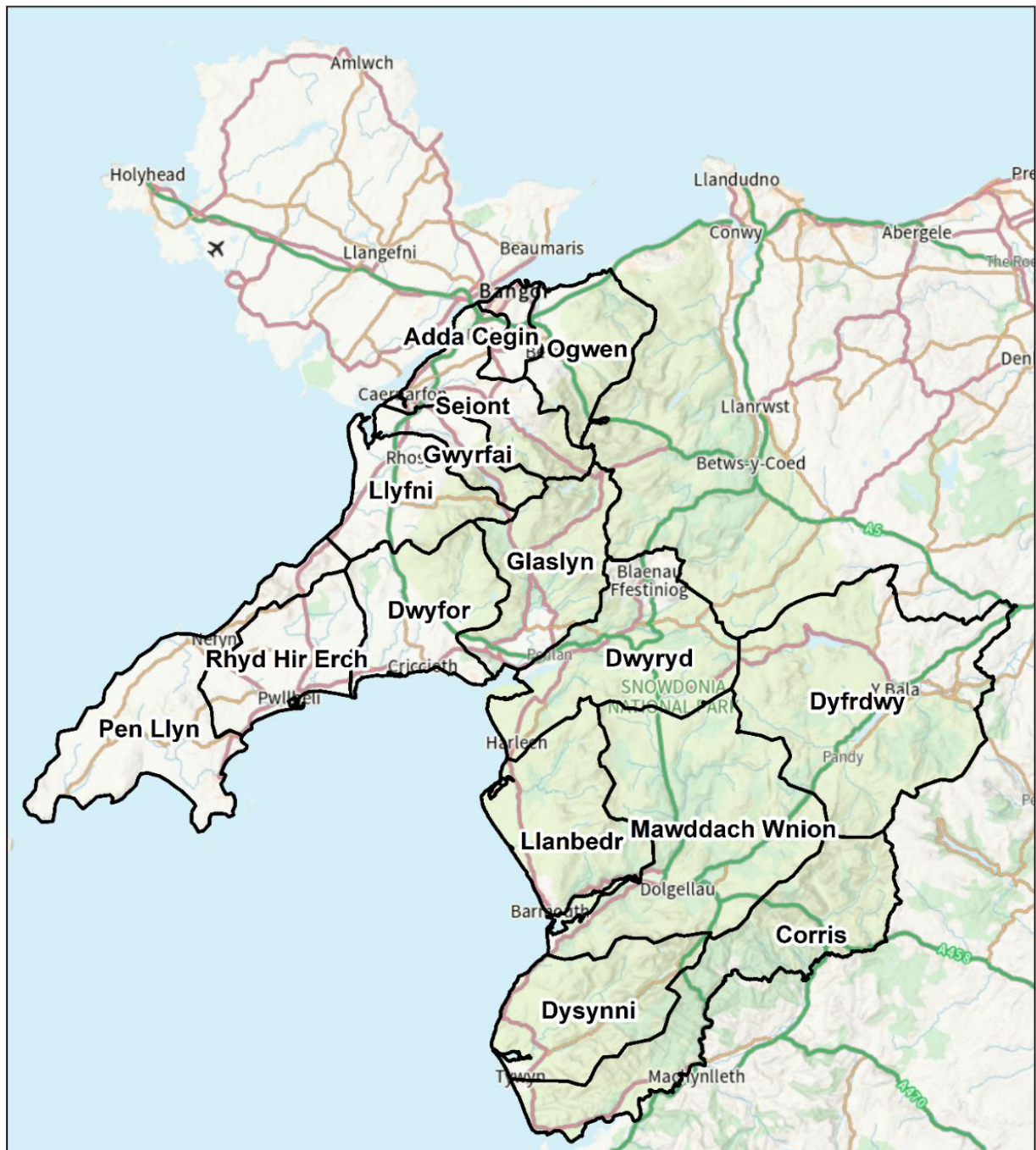


Table 10.1: Number of receptors at risk of flooding for each area (catchment)

Catchment	Communities	Number of properties at flood risk ²⁵					Number of Essential Services / Non-residential properties at flood risk ²⁶	Number of known incidents ²⁷
		Total	High risk	Medium risk	Low risk	Very Low risk		
Adda-Cegin	Bangor Penrhosgarnedd Glasinfryn Minffordd Pentir Rhiwlas Sling	353	17	80	153	103	60	28
Corris	South Tywyn Aberdyfi Pennal Corris Dinas Mawddwy Mallwyd Aberllefenni	272	88	34	104	46	52	15
Dwyfor	Chwilog Cwm Pennant Garndolbenmaen Criccieth Morfa Bychan Bryncir Pant Glas	125	31	16	42	36	38	51

²⁵ See section 9.1

²⁶ See section 9.1

²⁷ Number of individual properties known to have suffered from internal flooding according to records held by Cyngor Gwynedd

Catchment	Communities	Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Number of known incidents
		Total	High risk	Medium risk	Low risk	Very Low risk		
Dwyrdd	Blaenau Ffestiniog Llan Ffestiniog Gellilydan Llandecwyn Penrhyndeudraeth Harlech Trawsfynydd	654	83	100	355	116	131	38
Dyfrdwy	Bala Llanuwchllyn Llandderfel Frongoch Talardd Llanfor Glan Yr Afon	800	112	37	573	78	276	5
Dysynni	North Tywyn Bryncrug Llwyngwril Abergynolwyn Llangelynnin Tal Y Llyn Rhyd Yr Onen	378	145	56	117	60	110	16
Glaslyn	Nant Gwynant Beddgelert Nantmor Tremadog Porthmadog Croesor Borth Y Gest	877	20	54	194	609	211	77

<i>Catchment</i>	<i>Communities</i>	<i>Number of properties at flood risk</i>					<i>Number of Essential Services / Non-residential properties at flood risk</i>	<i>Number of known incidents</i>
		<i>Total</i>	<i>High risk</i>	<i>Medium risk</i>	<i>Low risk</i>	<i>Very Low risk</i>		
Gwyrfai	Llanfaglan Caeathro Bontnewydd Waunfawr Betws Garmon Ceunant Rhyd Ddu	140	22	20	74	24	31	45
Llanbedr	Llanfair Llanbedr Llanddwywe Dyffryn Ardudwy Llanaber Abermaw Bontddu	255	16	41	123	59	46	27
Llyfni	Penygroes Rhostryfan Nantlle Talsarn Pontllyfni Llanllyfni Aberdesach	495	205	64	123	103	63	95
Mawddach - Wnion	Dolgellau Fairbourne Brithdir Ganllwyd Llanfachraeth Arthog Llanelltyd	994	54	33	676	231	385	8

Catchment	Communities	Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Number of known incidents
		Total	High risk	Medium risk	Low risk	Very Low risk		
Ogwen	Llandygai Tal Y Bont Abergwyngregyn Tregarth Bethesda Mynydd Llandegai Rachub	412	52	37	254	69	81	89
Penllyn	Aberdaron Botwnnog Abersoch Mynytho Tudweiliog Nefyn Morfa Nefyn	246	62	43	115	26	103	66
Rhyd Hîr-Erch	Pencaenewydd Llangybi Y Ffor Llannor Efailnewydd Pwllheli Boduan	472	62	67	247	96	164	63
Seiont	Nant Peris Llanberis Deiniolen Llanrug Bethel Caernarfon Felinheli	611	79	39	339	154	272	187

10.2 Coastal risk by Management Area

The following section describes coastal flood risk in greater detail by considering each coastal Management Area in its turn. Management Areas (MA) along the Gwynedd coastline have been defined within the Shoreline Management Plan (SMP2) and represent a length of the coastline where the various frontages are interdependent in terms of coastal processes, and therefore should be managed as a collective to achieve the desired environmental outcome. With this in mind the policies for neighbouring frontages within a MA are designed to complement each other.

Management Areas in Gwynedd extend from MA 20 on the north side of the Dyfi estuary to MA 46 on the north coast, to the east of the mouth of the Afon Ogwen (see Figure 10.2 below). Table 10.2 provides the number of receptors at risk of flooding for each MA respectively as well as an estimate of the number of properties at risk of coastal erosion, according to information provided in the latest NCERM Map.

Appendix B provides further information regarding the nature and setting of each MA along with a description of the spatial distribution of flood risk zones, and how this corresponds with location of defences and changes in future shoreline policies (as described in section 4).

For a more detailed view of flood risk distribution within an area of interest the reader is referred to the Flood Risk Assessment Wales maps on NRW's webpage.

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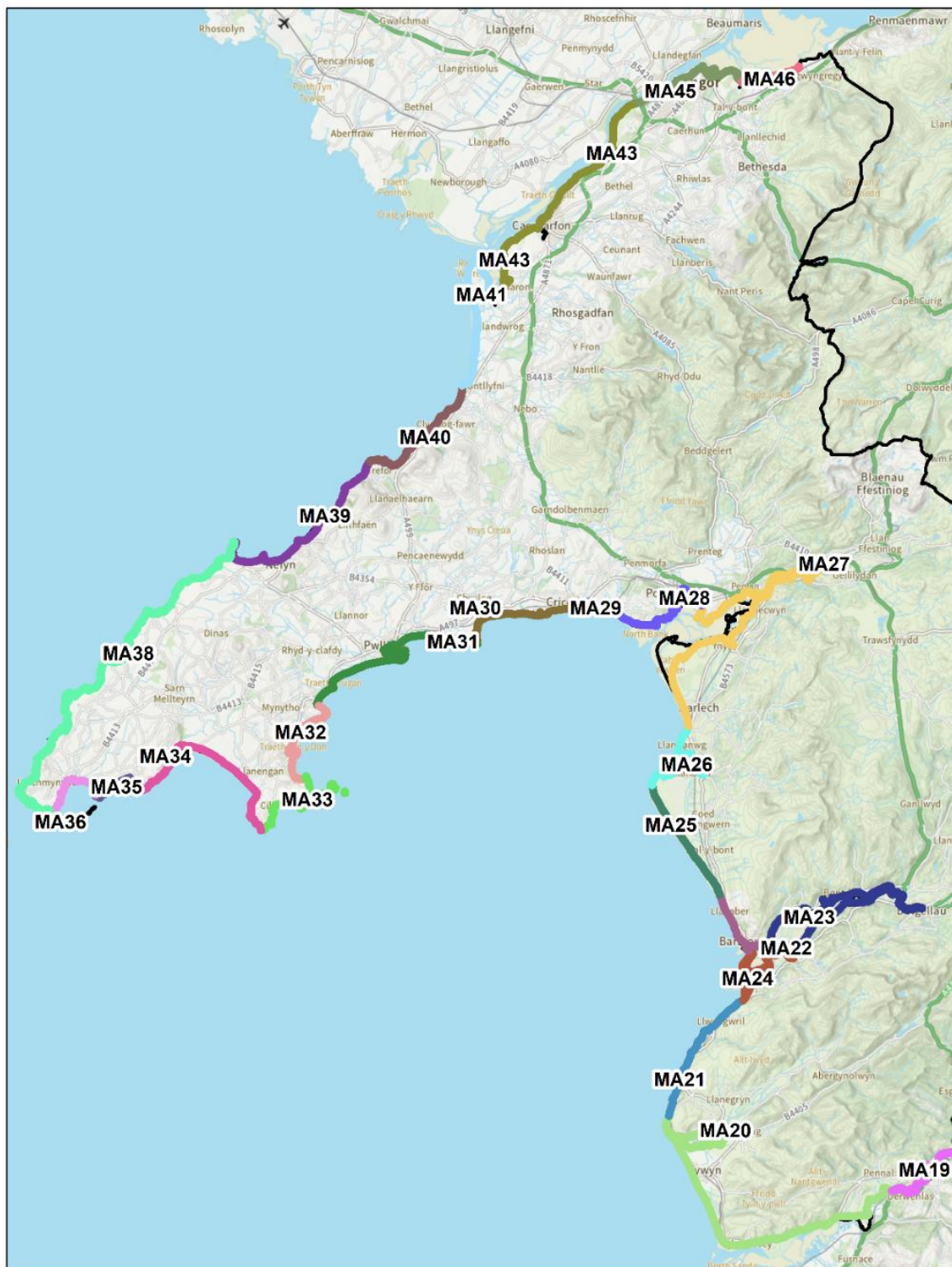


Table 10.2: Number of receptors at risk of coastal flooding/erosion for each area (MA)

Management Area	Communities	Number of properties at flood risk ²⁸					Number of Essential Services / Non-residential properties at flood risk ²⁹	Properties at risk of coastal erosion ³⁰
		Total	High risk	Medium risk	Low risk	Very Low risk		
19	Pennal	1	1	0	0	0	1	0 (0)
20	Bryncrug Tywyn Aberdyfi	500	170	44	53	233	45	138 (138)
21	Llwyngwrl	0	0	0	0	0	0	0 (0)
22	Fairbourne Arthog Friog	493	1	1	449	42	63	No data available
23	Llanelltyd Pen Y Bryn Bontddu Penmaenpool	62	25	5	7	25	14	0 (0)
24	Abermaw	548	12	7	308	221	127	0 (0)

²⁸ See section 9.1

²⁹ See section 9.1

³⁰ See section 9.1

Management Area	Communities	Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Properties at risk of coastal erosion
		Total	High risk	Medium risk	Low risk	Very Low risk		
25	Talybont Dyffryn Ardudwy	2	0	1	0	1	7	4 (4)
26	Llanbedr Pen-sarn Llandanwg	41	1	10	2	28	48	5 (5)
27	Penrhyndeudraeth Maentwrog Llandecwyn Talsarnau Harlech	516	8	46	93	369	52	2 (2)
28	Porthmadog Morfa Bychan Borth Y Gest	1877	27	7	1358	485	583	51 (51)
29	Criccieth (East)	1	0	0	0	1	0	50 (48)
30	Afon Wen Criccieth (West)	1	0	0	0	1	0	78 (78)

Management Area	Communities	Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Properties at risk of coastal erosion
		Total	High risk	Medium risk	Low risk	Very Low risk		
31	Pwllheil Abererch Penrhos Llanbedrog	1498	0	1	1091	406	428	1 (1)
32	Abersoch	69	23	8	11	27	44	13 (13)
33	Llanengan	1	0	0	0	1	0	0 (0)
34	Botwnnog	4	0	0	1	3	0	0 (0)
35	Uwchmynydd	0	0	0	0	0	0	0 (0)
36	Aberdaron	6	0	0	1	5	11	29 (29)

Management Area	Communities	Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Properties at risk of coastal erosion
		Total	High risk	Medium risk	Low risk	Very Low risk		
37	Ynys Enlli	0	0	0	0	0	0	0 (0)
38	Tudweiliog	0	0	0	0	0	1	2 (2)
39	Porthdinllaen Nefyn Morfa Nefyn	25	13	4	5	3	13	31 (8)
40	Aberdesach Trefor	6	0	0	0	6	1	15 (11)
41	Dinas Dinlle Pontllyfni	72	8	34	5	25	49	0 (0)
43	Caernarfon Y Felinheli Saron Llanfaglan	305	26	42	68	169	226	89 (89)

<i>Management Area</i>	<i>Communities</i>	<i>Number of properties at flood risk</i>					<i>Number of Essential Services / Non-residential properties at flood risk</i>	<i>Properties at risk of coastal erosion</i>
		<i>Total</i>	<i>High risk</i>	<i>Medium risk</i>	<i>Low risk</i>	<i>Very Low risk</i>		
45	Bangor Treborth	313	199	24	17	73	44	9(9)
46	Tal Y Bont Abergwyngregyn	14	6	3	2	3	3	0 (0)

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11. Our strategic Objectives

11.1 National Strategy Objectives

The Welsh Government National Strategy provides the framework for flood and coastal erosion risk management in Wales. The framework is centred around five key objectives and the measures to achieve those objectives.

The aim of the National Strategy is to ‘reduce the risk to people and communities from flooding and coastal erosion’. The aim is supported by five objectives that complement and overlap each other with the intention of reducing the risk to life. These are summarised in Table 11.1 below.

Table 11.1: The five main objectives identified within the National Strategy



11.2 Local Strategy Objectives

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. Our objectives are listed in Table 11.2 and have been selected to address our greatest areas of priority whilst considering the Council's remit for managing risks associated with local flooding and coastal erosion. All objectives are supported by a range of actions, listed and described in section 12.

Table 11.2: The strategic objectives of our Local Strategy

Local Strategy Objectives	Link to National Strategy Objectives
Objective 1: To aim to reduce the level of flood and coastal erosion risk to the residents of Gwynedd	C, D
Objective 2: To further develop an understanding of the flood risk to Gwynedd and the impacts of climate change	A
Objective 3: To continue to work with all relevant bodies to ensure appropriate and sustainable development in Gwynedd	B, D
Objective 4: Raising awareness of local flood and coastal erosion risk	A
Objective 5: Working collaboratively with all other RMAs and relevant groups/bodies to ensure a coordinated response to flood and coastal erosion events	E

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12. Strategic Actions

12.1 Introduction to Actions

Cyngor Gwynedd's objectives for managing flood and coastal erosion risk to our communities are listed in section 11, each objective is supported by the range of actions described below. These actions supplement the methods currently employed by the Council to manage FCERM risks, as described in section 6. The majority of the actions included below are to be discharge by the Water and Environment Unit within YGC (as LLFA), however where listed some actions are the responsibility of other departments. The mechanisms for financing and monitoring delivery of these actions over time are described in sections 13, 14 and 15.

12.2 Our Action Plan

Objective 1: To aim to reduce the level of flood and coastal erosion risk to the residents of Gwynedd	
1.1	Flood and coastal erosion risk management programmes
Action 1.1A	Maintain long term capital programme to reduce risk of inland flooding
	Cyngor Gwynedd will prepare and maintain a long-term programme of studies and schemes to manage the risks of inland (river and surface water) flooding upon our communities. The programme will contain high-level details of the objectives and potential benefits of each item and identify opportunities to work alongside partner organisations and/or other stakeholders. The programme will be reviewed and updated annually as more information regarding flood risk and flooding incidents becomes available. Schemes currently included on the Councils inland flood risk management programme are listed in Appendix A of this Local Strategy.
Action 1.1B	Maintain long term capital programme to reduce risk of coastal flooding/erosion, incorporating actions identified within SMP2
	Cyngor Gwynedd will prepare and maintain a long-term programme of studies and schemes to manage the risks of coastal flooding and coastal erosion upon our communities. The programme will contain high-level details of the objectives and potential benefits of each item and identify opportunities to work alongside partner organisations and/or other stakeholders. Our programme will incorporate the actions identified within SMP2 to move towards a sustainable approach of coastal management. The programme will be reviewed and updated annually as more information regarding risk and condition of coastal assets becomes available. Schemes currently included on the Councils coastal risk management programme are listed in Appendix B of this Local Strategy.
1.2	Flood and coastal erosion risk management improvements
Action 1.2A	Prepare annual list of schemes from long term action plan to reduce risk of flooding and coastal erosion to be presented for inclusion on WG capital programme
	Our works programmes (inland and coastal) will form the basis of our annual submission of studies and schemes to be included on the national FCERM programmes thereby securing grant support from Welsh Government. Further

	<p>information regarding prioritisation of work and means of funding our programmes is provided in section 13 and 14.</p> <p>As well as reducing flood and coastal erosion risks all schemes will be developed with the aim of maximising environmental and socio-economic benefits to the study areas. This will include reducing any adverse effects on designated ecological sites which will be driven by EIA and HRA processes.</p>
1.3	<i>Management of flood/coastal erosion risk management assets</i>
Action 1.3A	<i>Develop register and map of highway drainage assets in flood prone areas</i>
	<p>Information regarding the layout of surface water drainage systems within the Council's ownership and responsibility, as well as supporting records, are often incomplete. The Council will work to improve the records that exist in high surface water flood risk areas, so that opportunities to improve the network can be identified and that adequate maintenance and/or management plans can be developed to reduce surface water flood risk for our communities.</p> <p>The record of drainage assets shall include information on sensitive environmental features associated with the asset (if applicable), such as any archaeological and/or biodiversity designations, so that these can be considered if any maintenance arises.</p>
Action 1.3B	<i>Develop register and map of all SuDS elements adopted by the Council</i>
	<p>In their role as SAB Cyngor Gwynedd has a duty to adopt sustainable drainage systems that have been constructed to comply with national standards. The Council will develop a detailed inventory of adopted drainage systems, including information on the construction and function of each element as well as appropriate inspection and maintenance schedules.</p>
1.4	<i>Maintenance and deployment of flood/coastal erosion risk management assets</i>
Action 1.4A	<i>Prepare and deliver minor works programme (revenue) based on findings of asset condition assessment to maintain standard of protection afforded by flood risk/coastal erosion assets</i>
	<p>Following completion of our asset inspection programme the Council shall identify a risk-based programme of maintenance or minor works to ensure that asset condition is maintained and present-day standard of protection is not compromised. Any works that cannot be carried out using the Council's dedicated revenue budget for any given year will be included on a capital works programme (see Actions 1.1).</p>

Objective 2:	<i>To further develop an understanding of the flood risk to Gwynedd and the impacts of climate change</i>
2.1	<i>Working with partner RMAs</i>
Action 2.1A	<i>Contribute to stakeholder events with colleagues from partner RMAs and other stakeholders i.e. North Wales Regional Flood Group, West of Wales Coastal Group</i>
Action 2.1B	<i>Hold regular discussions regarding flood risk issues within Gwynedd with colleagues from NRW and DCWW</i>

	Working alongside partner RMAs and other stakeholders at a local and regional level will allow Cyngor Gwynedd to better understand flood challenges from all sources, and make us aware of policies, studies or schemes that are proposed by partner authorities to manage flood risk. Regular discussions with other organisations will also enable us to identify opportunities for partnership working, by sharing resources or knowledge to address challenges.
2.2	<i>Flood investigations</i>
Action 2.2A	<i>Develop and improve current mechanisms to identify incidents of flooding within Gwynedd as early as possible</i>
	Experience has shown us that information gathering exercises following storm events can take longer than we would like which can delay the commencement of investigation work. We are also aware that the Council are not alerted of all incidents of flooding to properties. Therefore, to build up a complete picture of flood impacts and to enable us to engage with effected residents as early as possible we intend to look at alternative methods of collecting information.
2.3	<i>Flooding to highway network</i>
Action 2.3A	<i>Initiate study to identify areas of the county highway network that are most vulnerable to flooding and will become more susceptible as a results of climate change effects in the future</i>
	Prevention of access towards populated areas during storm events is a significant risk to our communities and therefore a good understanding is needed of present day and future risks of flooding to the highway network so that measures to mitigate these risks can be considered.
2.4	<i>Flood Modelling</i>
Action 2.4A	<i>Development of high quality hydrological and hydraulic modelling to build on national maps and better understand flood risk at local level</i>
	Detailed investigation of flood risk in high-risk areas will be supplemented by modelling work to enable the Council to estimate the extent and depth of flooding for a range of rainfall and/or tidal events and also for various conditions (blockages, defence failure etc.).
Action 2.4B	<i>Incorporate most up-to-date climate change projections into all flood modelling exercises</i>
	All hydrological and/or tidal modelling exercises carried out to inform investigation or design work will make the correct allowances for future climate change effects, based on the most up to date available guidance
Action 2.4C	<i>Sharing of local flood modelling information with NRW so that national maps can be updated as appropriate</i>
	All hydrological and/or tidal modelling exercises carried out to inform investigation or design work will comply with NRW modelling standards to allow the national flood maps to be updated with more detailed and current information as appropriate. Challenging and updating national flood maps will enable the Council to identify the number of properties and other receptors that have benefitted from FCERM

	schemes in the future, thereby allowing success of this Local Strategy to be measured (see section 15).
2.5	Data Collection
Action 2.5A	<i>Enhancing our network of LoraWAN sensors to measure water levels within watercourses as well as groundwater level in areas of particular interest</i>
	Cyngor Gwynedd are in the processing of developing a network of telemetry sensors that can continually measure tidal level, the level of water within watercourses and groundwater. We intend to enhance the current network of sensors to build a better picture of the areas most affected by storm events. Further application of the sensors should also enable the Council to be alerted when flood risk requires intervention (e.g., to clear a blocked screen or culvert).
Action 2.5B	<i>Develop and implement a monitoring programme for areas of the coastline where cliff instability poses a risk to people, property and infrastructure.</i>
	The risk of coastal erosion is prevalent along certain areas of the coastline which could lead to instability of property or infrastructure in certain locations. Cyngor Gwynedd is to identify the areas where coastal erosion risks are highest and develop a programme to monitor any movements within the cliff face so that risk can be measured over time and actions to manage these risks can be identified.

Objective 3: To continue to work with all relevant bodies to ensure appropriate and sustainable development in Gwynedd	
3.1	Development Planning/Development Control
Action 3.1A	<i>Incorporation within the Local Development Plan of the requirements contained within TAN15 with regard to Strategic Flood Consequence Assessment</i>
	Cyngor Gwynedd's Local Development Plan is currently under review with replacement plan intended for the period from 2027 in preparation. The replacement plan will be guided by a Strategic Flood Consequence Assessment undertaken in accordance with the updated version of TAN15 (Development, flooding and coastal erosion) scheduled for publication in 2024, along with the information contained within the Flood Map for Planning.
Action 3.1B	<i>Regard within the Local Development Plan of recommendations for future changes in coastal policy, and subsequent implications for land use near the coastline</i>
	The current Local Development Plan includes a Climate Change Management Area policy intended to direct vulnerable developments away from coastal areas that may face a greater risk of flooding and/or coastal erosion in the future due to changes in coastal policies, as outlined in the SMP2. Consideration will be given to include a corresponding policy within the new Plan, ensuring that that policy meets the relevant planning policy requirements and guidance.
3.2	Works near watercourses
Action 3.2A	<i>Review of all policies relating to Land Drainage consenting procedures to ensure best practice is maintained and proposed developers are aware of design and construction requirements</i>

	<p>Cyngor Gwynedd is opposed to the culverting of watercourses because of the adverse ecological, flood risk, human safety and aesthetic impacts. Watercourses are important linear features of the landscape and should be maintained as continuous corridors to maximise their benefits to society. The Council have a culverting policy which explains to applicants in which circumstances culverting is appropriate and also provides general design criteria³¹. We shall review the content of this policy to ensure that this guidance provided is fit for purpose and in line with industry guidance.</p> <p>Opportunities to deliver environmental enhancement will be included in such policies where relevant, including proactive use of green infrastructure and restoring natural processes. WFD objectives and measures are to be delivered where reasonable to do so.</p>
3.3	<i>Sustainable Drainage Systems (SuDS) and Natural Flood Risk Management (NFM)</i>
Action 3.3A	<i>Identify opportunities for the implementation of SuDS and NFM schemes in areas which will deliver meaningful flood risk benefits as well as other environmental and amenity benefits</i>
	<p>SUDS are drainage systems that are considered to be environmentally beneficial, causing minimal or no long-term detrimental damage. They are often regarded as a sequence of management practices, control structures and strategies designed to efficiently and sustainably drain surface water, while minimising pollution and managing the impact on water quality of local water bodies.</p> <p>NFM involves working with nature to reduce the risk of flooding for communities. It uses various techniques to restore or mimic the natural functions of rivers, floodplains and the wider catchment. It aims to store water in the catchment and slow the rate at which water runs into rivers, to help reduce flooding downstream.</p> <p>A key priority of the National Strategy is to deliver more schemes of this kind, and with this in mind Cyngor Gwynedd will identify urban and upland areas that are suitable for delivery of SuDS and NFM interventions respectively, either as stand-alone projects or as part of wider flood risk management schemes.</p>
Action 3.3B	<i>Work with partner authorities and landowners to deliver NFM schemes as part of a national programme</i>
	As funding becomes available for NFM schemes Cyngor Gwynedd will identify and work alongside landowners and partners to deliver successful projects that realise all potential benefits associated with NFM. A successful example of partnership working on NFM schemes can be found in section 7 above.
Action 3.3C	<i>Develop position statement which clearly outlines how NFM schemes should be designed and developed to obtain necessary watercourse consents (S23 and LD bylaws) from Cyngor Gwynedd</i>
	As explained above Cyngor Gwynedd are responsible for consenting of in-channel works as well as works adjacent to ordinary watercourses. In this role our general aim is to ensure that river channels remain free from obstruction to allow effective conveyance of flow and reduce risk of out of channel flooding. However, some NFM

³¹ <https://www.gwynedd.llyw.cymru/en/Residents/Documents-Residents/Parking,-roads-and-travel/Flooding/Ordinary-watercourses/Gwynedd-Council-Culverting-Policy.pdf>

	<p>measures are generally opposed to this idea and instead look to re-connect the channel with its floodplain further up the catchment from flood-prone areas, so that peak flows are delayed. Cyngor Gwynedd will develop a position statement to establish design criteria for NFM measures which require our consent to avoid any conflict with our current consenting procedures.</p> <p>Our criteria will promote options that provide environmental enhancement measures.</p>
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Objective 4: Raising awareness of local flood and coastal erosion risk	
4.1	Raising awareness of local flood risk
Action 4.1A	<i>Cyngor Gwynedd will raise awareness of flood risk to its residents</i>
	As the Council considers the risk of flooding to a community through a scheme or a study we will engage with residents and business/property owners of the area of interest to make them aware of risk from different flood sources. We shall also let our communities know where to find the most up to date information relating to flood risk.
Action 4.1B	<i>Cyngor Gwynedd will advise on and promote flood resilience and resistance measures amongst its residents</i>
Action 4.1C	<i>Cyngor Gwynedd will prepare and publish an information pamphlet available to all residents within flood risk areas, and any residents that have experienced flooding to their properties</i>
	<p>The Council encounter many residents that face a continuous risk of flooding to their properties, and in some cases reducing the level of risk is not feasible or viable. In such cases we shall advise our residents on ways to live alongside the risk in the form of an information pamphlet prepared alongside the National Flood Forum.</p> <p>We shall also provide advice on methods to reduce the likelihood of damages through property level protection, and direct our residents towards reputable agents or suppliers that can provide the quality assured products.</p>
4.2	Raising awareness of coastal erosion risk
Action 4.2A	<i>Cyngor Gwynedd will raise awareness of coastal erosion risk to its residents, focusing on the most at risk areas</i>
	Cyngor Gwynedd will engage with residents and business/property owners in areas where coastal erosion is of concern in order to make them aware of present-day risks and any likely changes in ground stability over time. We shall also let our communities know where to find the most up to date information on coastal erosion risk.

Objective 5: <i>Working collaboratively with all other RMAs and relevant groups/bodies to ensure a coordinated response to flood and coastal erosion events</i>	
5.1	<i>Preparation and testing of Emergency Plans</i>
Action 5.1A	<i>Cyngor Gwynedd will review and update its flood emergency plans alongside North Wales Councils Regional Planning Service; to include evacuation and rest centre plans.</i>
	The Council has an important role to play if our communities are unfortunate enough to experience a significant flood event. It is therefore important that concrete plans are in place to protect our residents in such an event and that these plans are tested occasionally to ensure that they are appropriate and that all the relevant agencies have an understanding of their responsibilities.

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13. Funding and Prioritisation

13.1 Funding options

Measures to manage flood and coastal erosion risk are funded from a range of sources with most of the funding available through the Welsh Government's capital and revenue programmes. Welsh Government run a variety of capital works programmes which are aimed at different types and scales of FCERM schemes – these programmes are described briefly in table 13.1 below.

Cyngor Gwynedd will also make funds available for capital works where match-funding is a pre-requisite for Welsh Government grant, and also makes annual contribution towards revenue funding which supplements the grant received from Welsh Government.

Table 13.1: FCERM funding sources

Welsh Government FCERM Capital Grant Funding: Intended to support the development, design and construction of new flood alleviation schemes as well as major maintenance works. The 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 Guidance³². Cyngor Gwynedd are usually required to match-fund at least the construction phase of a Capital Grant project with the rate of contribution varying between 15-25%. Match-funding is subject to a timely application to the Council for core funding.

Welsh Government Small Scale Work 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 £200,000 (2022/23) and has proved successful in driving delivery and risk reduction, with up to £4.3 million allocated annually for such schemes (2020-21). Works under this programme are subject to 15% match-funding which is usually provided from the annual FCERM core funding made available to the department (Highways, Engineering & YGC) by Cyngor Gwynedd.

Welsh Government NFM Accelerator Grant: This programme aims to accelerate RMAs delivery of natural flood management interventions by providing funding for the delivery of NFM schemes, including appraisal, design, construction and monitoring equipment.

Welsh Government Revenue Funding: Revenue funding remains a vital part of FCERM funding intended to support the duties and functions of LLFAs under the FWMA. In addition to work such as flood investigations, awareness raising and maintenance of assets, Cyngor Gwynedd have historically used revenue funding to carry out monitoring tasks, provide training opportunities for FCERM staff and invest in equipment.

Cyngor Gwynedd Revenue Funding and Staff Costs: As discussed above Cyngor Gwynedd provide an annual FCERM allowance to the Highways, Engineering & YGC department. This core funding secures staff salaries, allows for minor works and asset maintenance, and can be used as match funding against Welsh Government grant contribution (usually only Small Scale Works).

³² https://www.gov.wales/sites/default/files/publications/2019-06/flood-and-coastal-erosion-risk-management-fcerm-business-case-guidance_0.pdf

Partnership Funding: Opportunities for partnership working amongst RMAs is encouraged by Welsh Government and therefore options for partnership funding should be explored more thoroughly in the future as a way of achieving FCERM objectives which are of mutual interest to parties. This type of funding will become more important as we look to integrate flood schemes with other infrastructure and environmental projects to bring multiple benefits, seek sustainable and better value interventions.

13.2 Prioritisation

Section 14 below explains how Cyngor Gwynedd will develop works programmes (inland and coastal) to benefit from the funding sources described above, with all schemes and/or studies reviewed and prioritised by Welsh Government before funding programmes are announced each year.

The Welsh Government prioritises FCERM schemes which primarily reduce risk to homes. Businesses and public buildings can also benefit from schemes, in particular those which reduce risk to a mix of development types such as homes and shops along a high street or local district centre. Schemes which only reduce risk to businesses remain eligible but should not be prioritised over schemes which reduce risk to homes. Funding is not available to enable new development.

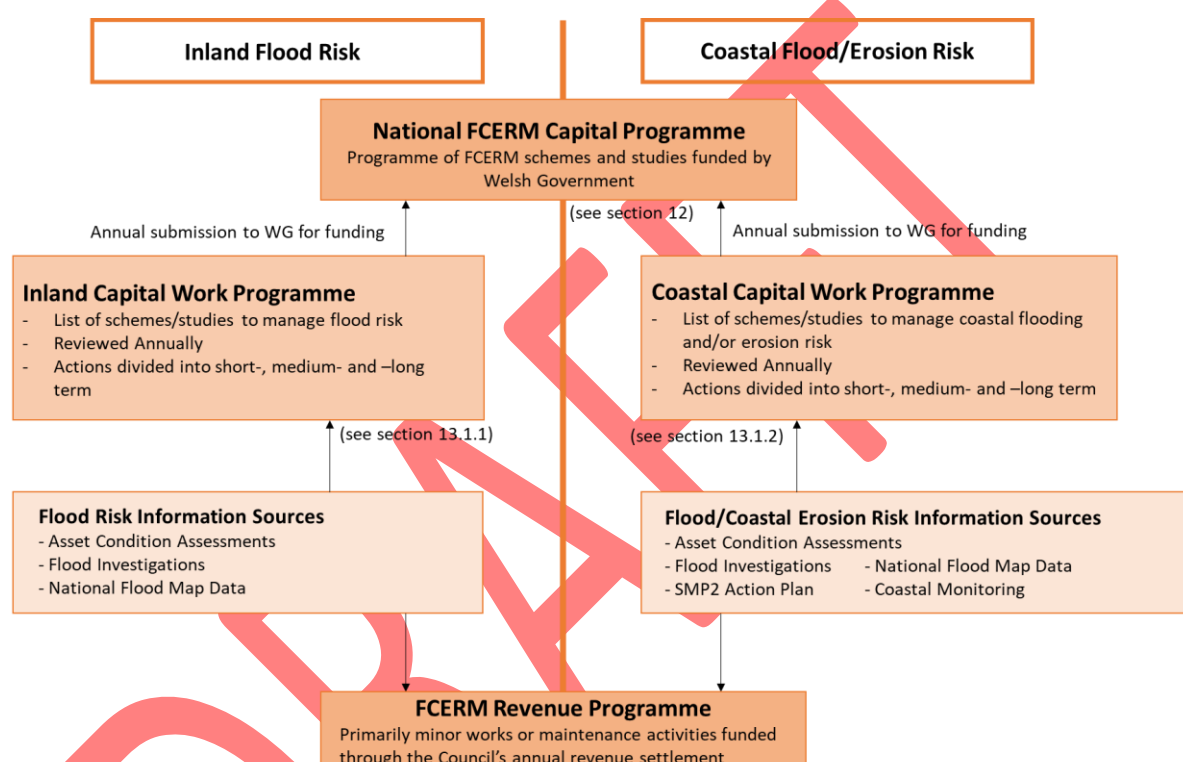
RMAs applying for funding are encouraged to identify wider benefits such as regeneration opportunities, improvements to habitats/biodiversity, mental health or recreational benefits. Early consideration of aligning multiple benefits to secure wider funding is encouraged. Where significant benefits are identified to third parties, it is expected RMAs will work both internally and externally (for example with infrastructure providers, utilities, industry and commerce) to identify and secure appropriate partnership funding contributions from those benefitting from a scheme.

14.0 FCERM Works Programmes

Actions 1.1A – 1.3A in section 12 describe how the Council will prepare long-term capital programmes centred around inland and coastal risks to our communities into the future. The preparation and delivery of our works programmes is pivotal to successful delivery of this Local Strategy.

Figure 14.1 below summarises how Cyngor Gwynedd FCERM programmes will be identified and promoted, using the different funding streams described above for delivery.

Figure 14.1: Development and promotion of Cyngor Gwynedd FCERM schemes



14.1 Capital Programme

Each year Cyngor Gwynedd will prepare a pipeline of FCERM schemes and/or studies to be included on Welsh Governments capital programme for the following year/s, the pipeline submission will be based on the two separate long-term works programmes described below. Whilst we acknowledge that Cyngor Gwynedd are the lead organisation for the schemes and studies included on our programmes, we do anticipate that certain project will involve working in partnership with other RMAs.

Schemes are separated into short-, medium- and long-term projects according to priority (<5 years, 5-10 years and 10+ years respectively). Priority will mainly be assigned according to level of flood/coastal erosion risk, but other factors such as the Council's legal responsibilities will also influence priority. The selection of schemes from our programmes onto the annual

pipeline will be according to priority and the Council's confidence of delivering a scheme or stage of scheme within the approaching funding window.

All schemes promoted through the inland/coastal programme and onto our pipeline submission will be developed in accordance with the FCERM Business Case Guidance to ensure that an affordable and sustainable solution is identified.

These works programmes will be reviewed by the Council on an annual basis.

14.1.1 Inland Flood Risk

The inland flood risk management programme will include a list of flood risk management scheme and studies that have been identified from the sources described in Table 14.2 below.

Table 14.1: Sources of information used to develop inland flood risk management programme

Asset inspection: Routine inspection of our flood risk assets will enable us to identify when damage or deterioration could lead to an unacceptable risk of flooding. In such cases we shall plan for necessary repair or replacement works to reduce flood risk to an acceptable level.

Flood risk data: Information provided on the national flood maps (as presented in Appendix A) will indicate the areas where flood risk is greatest and where further study could provide more detail regarding nature and level of risk, and whether feasible solutions exist to manage this flood risk as necessary.

Flood Investigation: The greatest trigger for flood risk management intervention is responding to actual flooding events where people and property have been affected. In such cases the Council will build on initial investigation works to identify a solution which will reduce the risks of a similar incident.

Schemes currently included on the Councils inland flood risk management programme are listed in Appendix A of this Local Strategy. The programme includes local flood risk management schemes that have previously been identified and are currently at various stages of the business case cycle. Our desire is to assess flood risk across each hydrological catchment in its turn to identify a series of integrated flood risk management interventions within each catchment. This approach allows us to take a broad view of flood risks and concerns to develop schemes that can complement each other to provide benefit for a high number of properties.

14.1.2 Coastal Flooding and Erosion Risk

The coastal flood/erosion risk management programme will include a list of flood and coastal erosion risk management scheme and studies that have been identified from any of the following sources:

Table 14.2: Sources of information used to develop coastal risk management programme

Asset inspection: Routine inspection of our FCERM assets will enable us to identify when damage or deterioration could lead to an unacceptable risk of flooding or coastal erosion. In such cases we shall plan for necessary repair or replacement works to reduce risk to an acceptable level.

Flood risk data: Information provided on the national flood maps (as presented in Appendix B) will indicate the areas where flood risk is greatest and where further study could provide more detail regarding nature and level of risk, and whether feasible solutions exist to manage this flood risk as necessary.

Flood Investigation: The greatest trigger for flood risk management intervention is responding to actual flooding events where people and property have been affected. In such cases the Council will build on initial investigation works to identify a solution which will reduce the risks of a similar incident.

SMP2 Action Plan: The action plan provides a framework for delivering the long-term coastal management objectives identified within the SMP2 document. Actions are assigned for different areas of the coastline with a lead organisation designated to deliver each action. Cyngor Gwynedd are tasked with managing flood and coastal erosion risk and promoting coastal adaptation according to the West of Wales SMP2 Action Plan. A copy of the Action Plan can be found on the West of Wales Coastal Group's website.

Schemes currently included on the Councils coastal risk management programme are listed in Appendix B of this Local Strategy. The programme includes coastal risk management schemes that have previously been identified and are currently at various stages of the business case cycle, as well as schemes or studies which are included on the SMP2 Action Plan to manage risks associated with climate change effects on our coastline in the future. The type of intervention which emerge from our SMP2 studies could be wide ranging depending on the nature of the risk and opportunities for adaptation and will not always involve construction or upgrading of physical defences.

14.2 Revenue Programme

The Council's revenue works programme mainly consists of asset management, maintenance and repair tasks which have been identified following routine and post-storm condition inspections. Minor drainage improvements are also carried out as part of the revenue programme. The programme is updated on a more regular basis as issues come to the Council's attention over the course of a year. Generally, such works do not require advance planning or detailed design phases and therefore the programme has a shorter turn-around.

15. Monitoring progress

15.1 How we measure progress

As the LLFA, Cyngor Gwynedd is responsible for monitoring the implementation of this Local Strategy. Measuring progress of strategy implementation will focus upon the delivery of the actions described in section 12, and the benefits derived from these actions. All actions have been developed to supplement the methods currently employed by the Council to manage FCERM risks, in order to achieve the objectives within this Local Strategy.

Measures will focus on but not limited to the following aspects:

- Number of properties benefitting from FCERM schemes included on the capital work programmes described under Actions 1.1A and 1.1B (and further in section 13.1 above)
- Long-term value to the Council of the schemes included on the capital works programmes (described under Actions 1.1A and 1.1B)
- Number of our FCERM assets in adequate condition to fulfil their function
- Effectiveness of flood investigation procedure

15.2 How regularly we monitor progress

Generally, progress will be monitored through the Council's 'Performance Challenge and Support' procedure, which requires all services to report against a list of specific measures every 2 months. However specific reporting periods will need to be agreed for measures that focus on longer-term benefits, for example the number of properties benefitting from FCERM schemes or interventions may only be reviewed annually.

In addition to this a progress report on the delivery of actions will be published every 2 years to monitor progress against the Local Strategy's objectives and actions and will be made available on the Council's website. As described in section 14 the capital works programmes will be reviewed on an annual basis to reflect the Council's continual assessment of flood and coastal erosion risks to our communities, and updates will also be available on the Council's website.

16. Environmental assessments

Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives and Actions presented take into account potential impacts on the environment.

16.1 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 main environmental effects of the Local Strategy are considered to be a result of the delivery of minor works programme associated with flood risk / coastal erosion asset maintenance, and the implementation of SMP2 coastal policies. It was assessed that potential negative environmental effects could arise from works carried out at the project level (minor works programme) that does not allow for consideration of Environmental effects on biodiversity (such as disturbance of protected species), water quality (through water pollution from construction activities), and cultural heritage (disturbance / damage to cultural heritage features), depending on the extent and location of such work. Potential negative environmental effects were identified with actions associated with implementing coastal policies (SMP2), which could adversely affect SEA objectives due to potential loss of habitat, loss of agricultural land, and loss of cultural heritage features.

Proposed mitigation and enhancement measures to alleviate such effects are outlined. Assuming that the recommended mitigation is implemented for Local Strategy Objectives 1 and 3 the potential negative effects associated with them would be expected to be avoided or at least reduced so that they were no longer significant. Monitoring will involve testing the assessment criteria that have been proposed for the SEA objectives using the relevant indicators.

16.2 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, it was identified that a HRA needed to be undertaken in parallel with the SEA process.

The full HRA is contained within a separate report, the conclusions of the HRA process is summarised as follows.

A scoping exercise was initially completed to identify the European sites that fall within the Local Strategy area. This exercise then proceeded to identify which of these sites are likely to remain unaffected by the Local Strategy and hence not requiring to be considered further. 7 sites were scoped out, leaving 25 European sites, comprising 18 SAC's, 4 SPA's, and 3 Ramsar Sites, to be considered in the assessment.

A scoping exercise was also completed to investigate which of the Local Strategy Objectives / Actions have the potential for a significant effect on European sites. Potential adverse effects associated with the Local Strategy may occur from a limited number of the Local Strategy objectives. Many of the options are involved with non-environmentally damaging operations, such as development of flood risk community engagement and emergency planning, and hence will not have an adverse effect on the environment.

A screening process was undertaken which involved an assessment of likely significant effects on the identified European sites screened in, taking account of the screened in Local Strategy objectives and the likely impacts from these objectives / actions. The screening exercise concluded that likely significant effects (LSE) could not be ruled out for a total of 18 SAC's, 4 SPA's, and 3 Ramsar sites. Therefore, an appropriate assessment was required for these likely significant effects.

The Appropriate Assessment found that some of the objectives/actions of the Local Strategy could effect the integrity of European sites. However, due to the high level of the strategy it is not possible to conclude with any certainty which, if any sites will be effected, or if the effects will be significant. Subsequent plans and projects / schemes arising from the Local Strategy will need to be subject to HRA if there is a potential to affect European Designated Sites, under the Habitats Regulations.

The assessment showed that for identified likely impacts, effective mitigation approaches are available at lower – tier levels. Provided that effective and appropriate mitigation is implemented it can be concluded that no adverse effects on European Site integrity will occur as a result of adopting the Local Strategy. The Appropriate Assessment therefore concluded that the Local Strategy is not likely to have any significant adverse effects on European sites, alone or in combination with other plans or projects. Detailed assessments will be required at lower-tier levels to identify any likely significant effects at the site-specific level and implementation of the required mitigation to avoid these.



Cyngor Gwynedd

Local Flood Risk Management Strategy DRAFT Appendices



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Appendix A	Inland Flood Risk by Area (with summary table)
Appendix B	Coastal Risk by Area (with summary table)

Inland flood risk by area

The following section describes inland flood risk in greater detail by considering each hydrological catchment in its turn. The nature and setting of each catchment is described along with a description of the spatial distribution of flood risk zones, and how this corresponds with location of defences and records of historic flooding. Figure A1 below shows the location and extent of all catchments described.

For a more detailed view of flood risk distribution within an area of interest the reader is referred to the Flood Risk Assessment Wales maps on NRW's webpage¹.

Table A2 summarises the level of flood risk within each catchment in its turn and also lists flood risk management schemes and/or studies which are ongoing at present to address risks within each catchment.

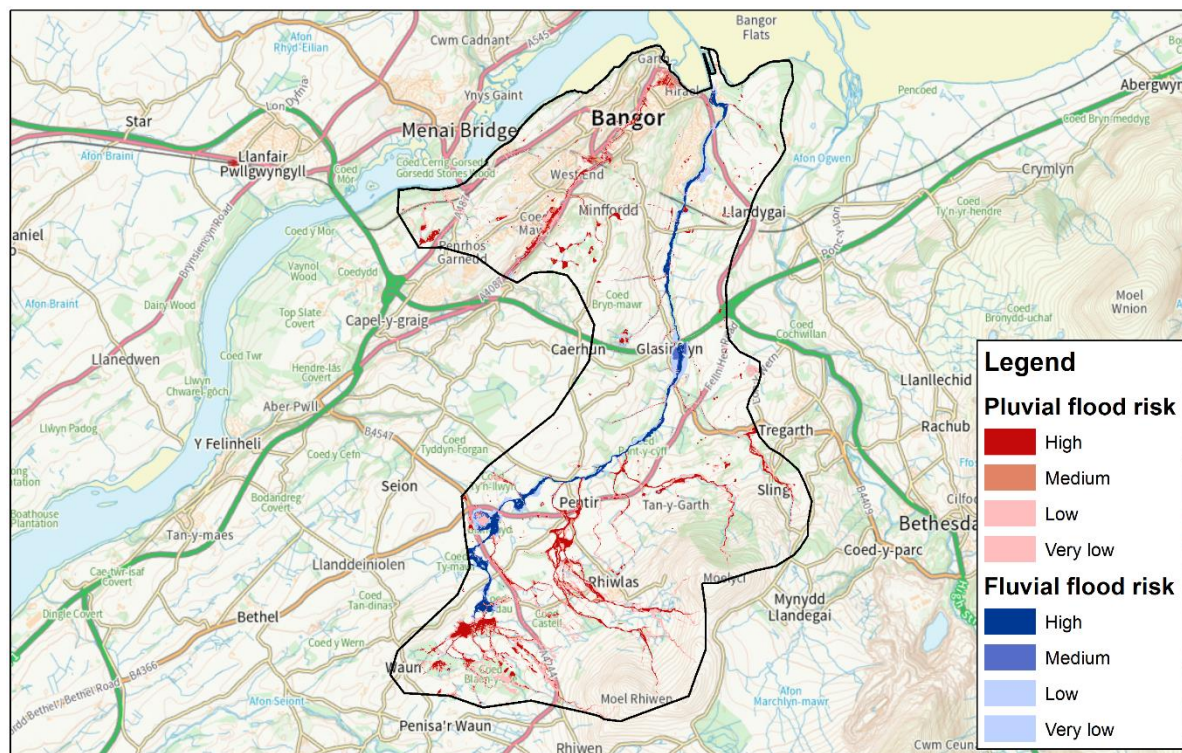
¹ <https://naturalresources.wales/flooding/check-your-flood-risk-on-a-map-flood-risk-assessment-wales-map/?lang=en>

Figure A1: Hydrological catchments in Gwynedd



Catchment 1: Adda-Cegin

Figure A2: Outline of the Adda-Cegin Catchment and areas of flood risk



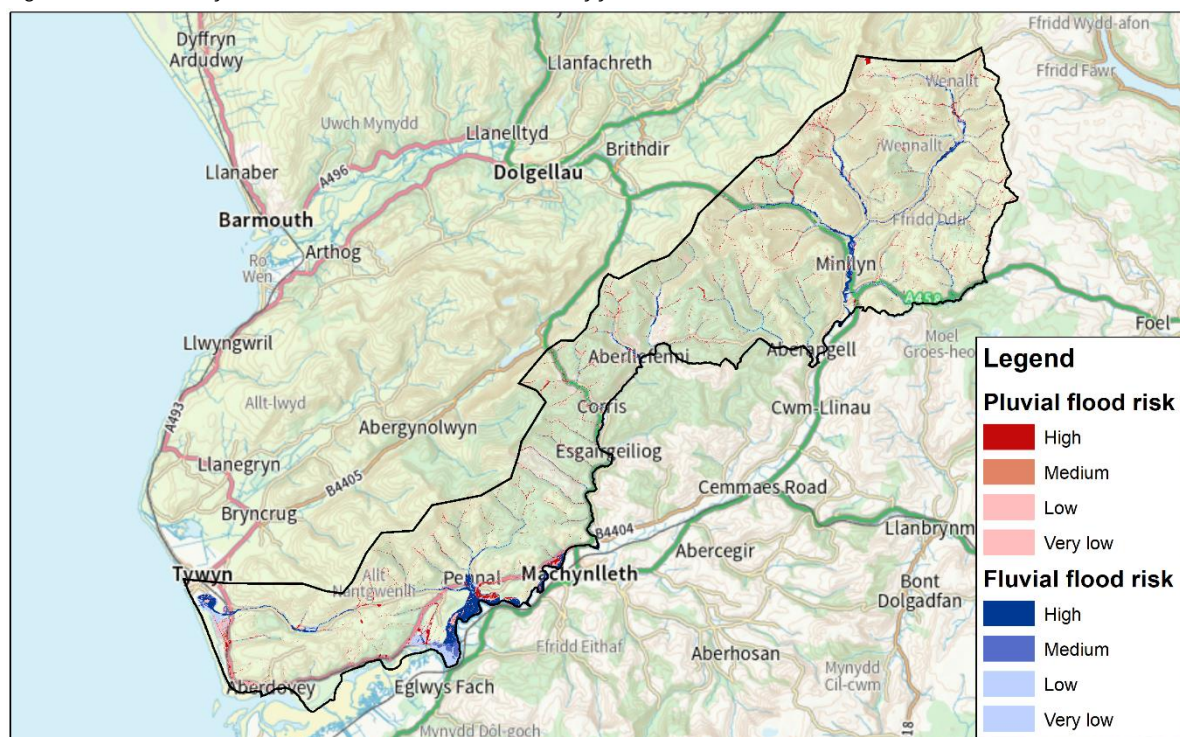
The Adda-Cegin catchment includes the communities of Bangor, Minffordd, Glasinfryn, Pentir, Rhiwlas and Sling. The largest watercourses within the catchment include the Adda and Cegin. The catchment's headwaters are located on the slopes of ~400 m hills on the fringes of Eryri. No areas or properties formally benefit from fluvial flood defences within the catchment.

The principal areas subject to pluvial and fluvial flood risk are the areas immediately surrounding the Afon Adda through the centre of Bangor, and in isolated locations along the upper reaches of the Afon Cegin. Fluvial flood risk is particularly prevalent along the Afon Adda along the Caernarfon Road area of Bangor where it is culverted, having caused a number of flooding issues historically.

Cyngor Gwynedd holds records of 28 flooding incidents across the Afon Adda and Cegin since 2011, there is also several known surface-water related flood incidents across the catchment.

Catchment 2: Corris

Figure A3: Outline of the Corris Catchment and areas of flood risk



Most of the watercourses within the Corris catchment flow into the Afon Dyfi. The catchment includes the communities of lower Tywyn, Aberdyfi, Pennal, Corris, Aberllefenni and Minllyn. The largest watercourses within the catchment include the Dyffryn-Gwyn, Pennal, Dulas and the upper Dyfi. The catchment's headwaters are heavily forested and many sub-catchments are steep and very responsive to short term rainfall events. The catchment is very rural in nature.

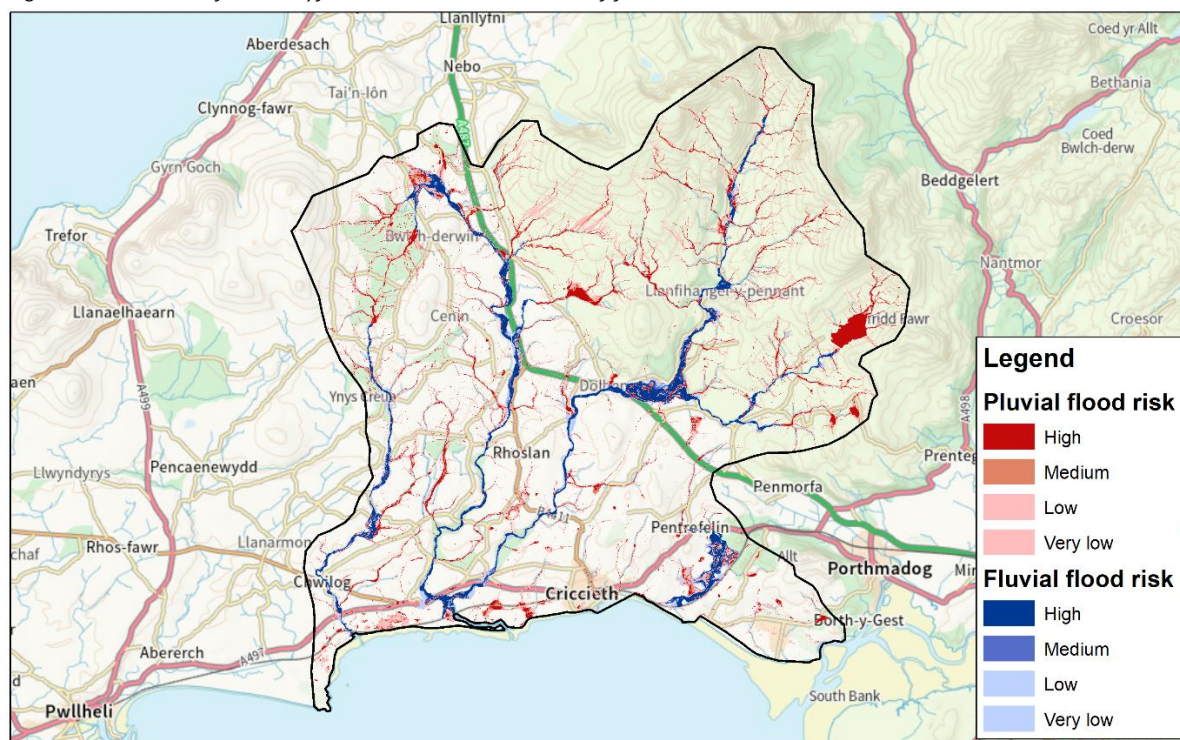
Assets at risk are well-distributed across the catchment. However, there are small concentrations in the villages of Pennal, Corris and Dinas Maddwy, which are particularly susceptible to surface water flooding due to the steep-sided valleys of the headwater areas of the catchment.

Cyngor Gwynedd holds records of 15 flooding incidents in the catchment, with many having been reported in late winter, 2012 due to a period of prolonged heavy rainfall.

A small number of properties benefit from a short section of flood wall on the east bank of the Afon Pennal in the village of Pennal, no other formal defences exist within the catchment.

Catchment 3: Dwyfor

Figure A4: Outline of the Dwyfor Catchment and areas of flood risk



The Dwyfor catchment has its headwaters on the western fringes of Eryri, and as such contains a number of steep-sided, mostly wet catchments as the face the prevailing wind (and weather) direction. A number of large watercourses merge to form the Afon Dwyfor in the low-lying areas of the catchment. The catchment includes the communities of lower Chwilog, Criccieth, Borth-y-gest, Rhoslan, Bryncir and Cwm Pennant. The largest watercourses within the catchment include the Dwyfor, Dwyfach and Wen.

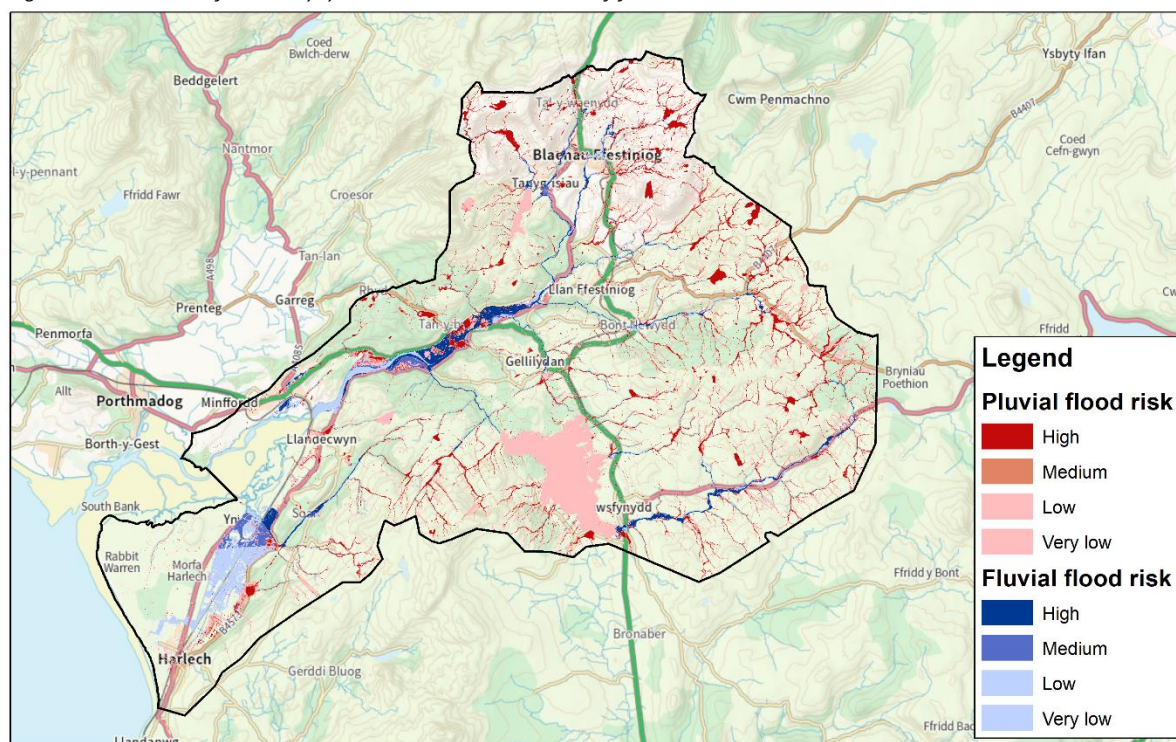
The catchment's land is used almost exclusively for agriculture, with little to no forest cover, and is very rural and as such assets at risk are well-distributed across the catchment. However, there are small concentrations near Afon Wen and along the B4411 leading into Criccieth from the north.

Cyngor Gwynedd holds records of 51 flooding incidents in the catchment, with many having been reported in Criccieth during June 2022 due to a severe thunderstorm.

Flood defences are present along sections of the Afon Wen and lower reaches of the Afon Dwyfor to protect agricultural land on the floodplain from inundation.

Catchment 4: Dwyrhyd

Figure A5: Outline of the Dwyrhyd Catchment and areas of flood risk



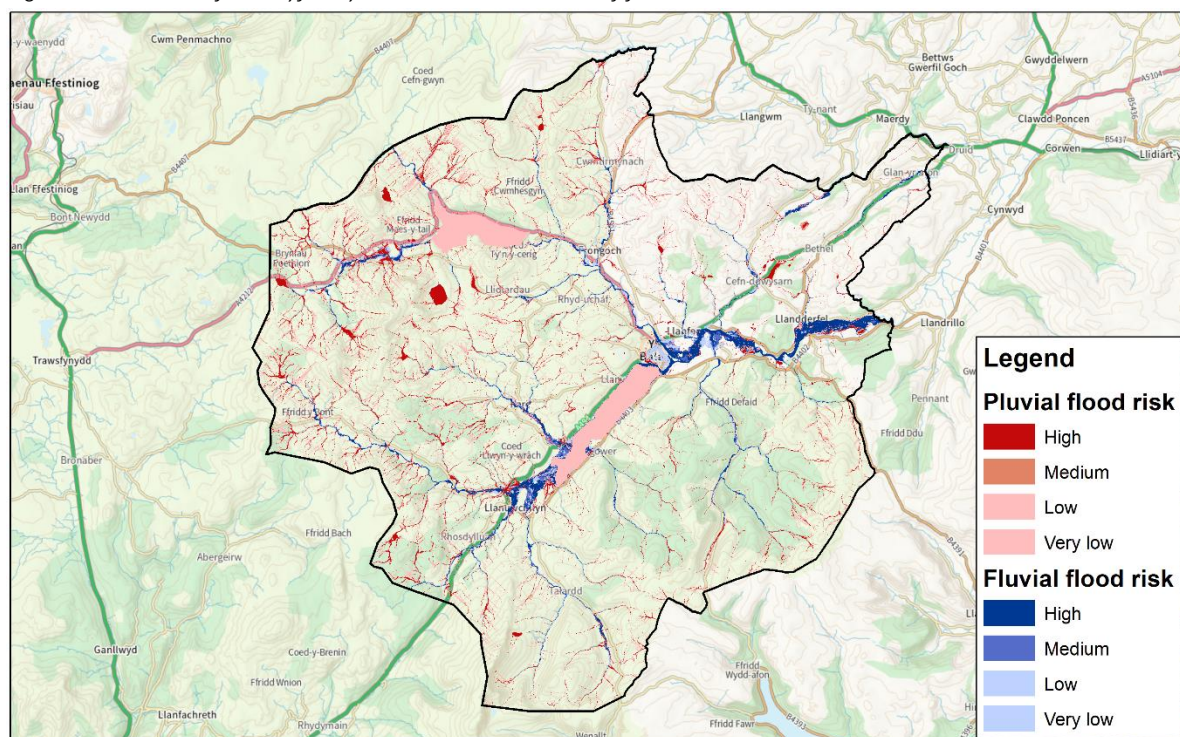
The Dwyrhyd catchment, similarly to the Dwyfor catchment, has its headwaters on the Western fringes of Eryri. The catchment transitions quickly from a steep, upland catchment to a low-energy, lowland catchment, with many large floodplains along the coast and along the Dwyrhyd estuary. The catchment includes the communities of Blaenau Ffestiniog, Llan Ffestiniog, Gellilydan, Trawsfynydd, Llandecwyn and Harlech. The catchment also contains Trawsfynydd lake which has a notable impact on the flow of the Afon Prysor. The largest watercourses within the catchment include the Dwyrhyd, Prysor and Cynfal. The catchment's land is a diverse mixture of raised peat bog, quarries, agricultural land, and coastal marshland.

Flood risk is prominent throughout the catchment, with risk from surface water or small watercourses affecting most communities. The largest clusters of flood risk receptors are located in Blaenau Ffestiniog as the Bowydd and Barlwyd from through built-up areas.

The mapped flood risk pattern matches well with the geographical distribution of flood incidents known to Cyngor Gwynedd. There have been 38 flooding incidents in the catchment, with many having been reported in summer, 2016 due to a prolonged period of heavy rainfall. Surface water flooding problems have been known to exist in Blaenau and Harlech, where numerous small watercourses are culverted beneath the town.

Catchment 5: Dyfrdwy

Figure A6: Outline of the Dyfrdwy Catchment and areas of flood risk



The Dyfrdwy catchment includes the communities of Llanuwchllyn, Bala, Llandderfel, Frongoch, Glan Yr Afon and Llanycil. The largest watercourses within the catchment include the Dyfrdwy, Twrch, Lliw, Tryweryn and Mynach. The catchment's land is largely a mixture of peat bogs and agricultural fields. The catchment contains two large lakes; Capel Celyn reservoir which regulates flow into the Afon Dyfrdwy, and Llyn Tegid, which provide increased flood lag times, thereby generally helping to regulate flooding issues.

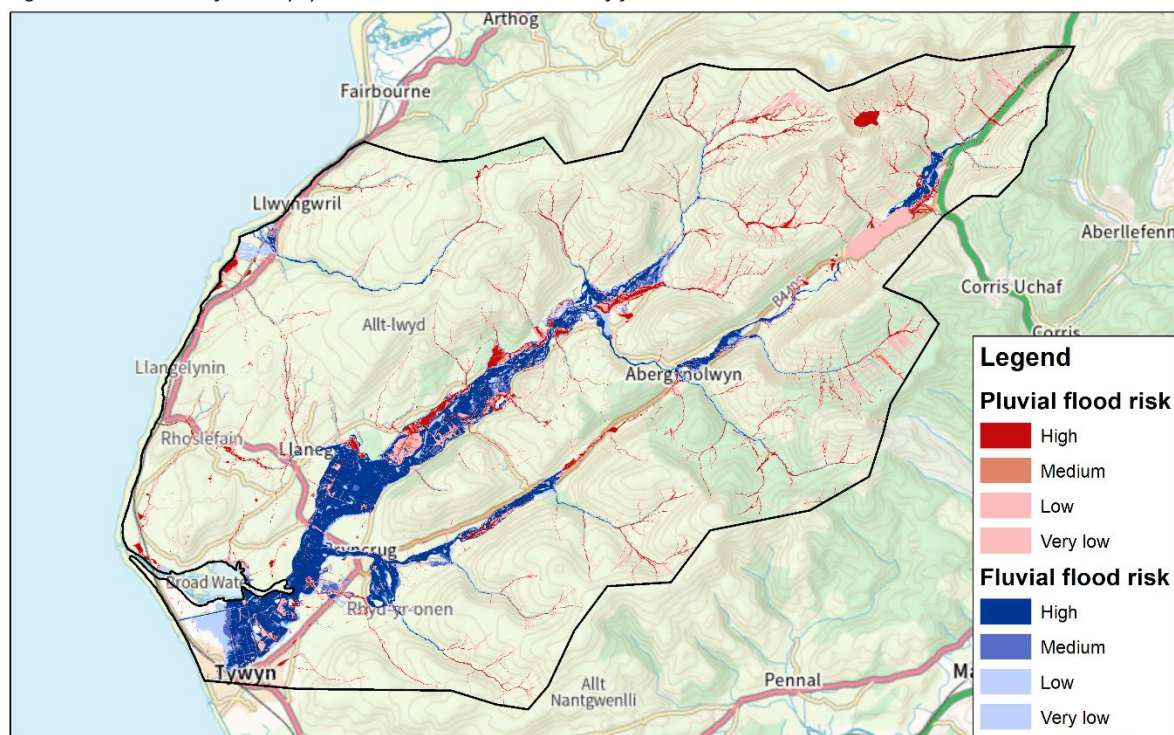
Large, formal flood embankments run along the Eastern edge of Llyn Tegid, and encircle the town centre of Bala, defending it from both the Dyfrdwy and Tryweryn, and the large number of low-risk receptors within this catchment represent the properties afforded protection by these defences.

Flood risk is prominent throughout the catchment, with risk from surface water or small watercourses affecting most communities. The largest clusters of flood risk receptors are located in at the northern end of Bala, along the western bank of the Tryweryn.

Records of flooding within the catchment are generally low and the majority of flooding issues in the catchment appear to be related to surface water issues. There have been 5 incidents of internal flooding since Gwynedd assumed the role of LLFA in 2011.

Catchment 6: Dysynni

Figure A7: Outline of the Dysynni Catchment and areas of flood risk



The Dysynni catchment includes the communities of Tal Y Llyn, Abergynolwyn, Llanfihangel-y-pennant, Llanergyn, Brynccrug and Upper Tywyn. The largest watercourses within the catchment include the Dysynni, Gwrl and Fathew.

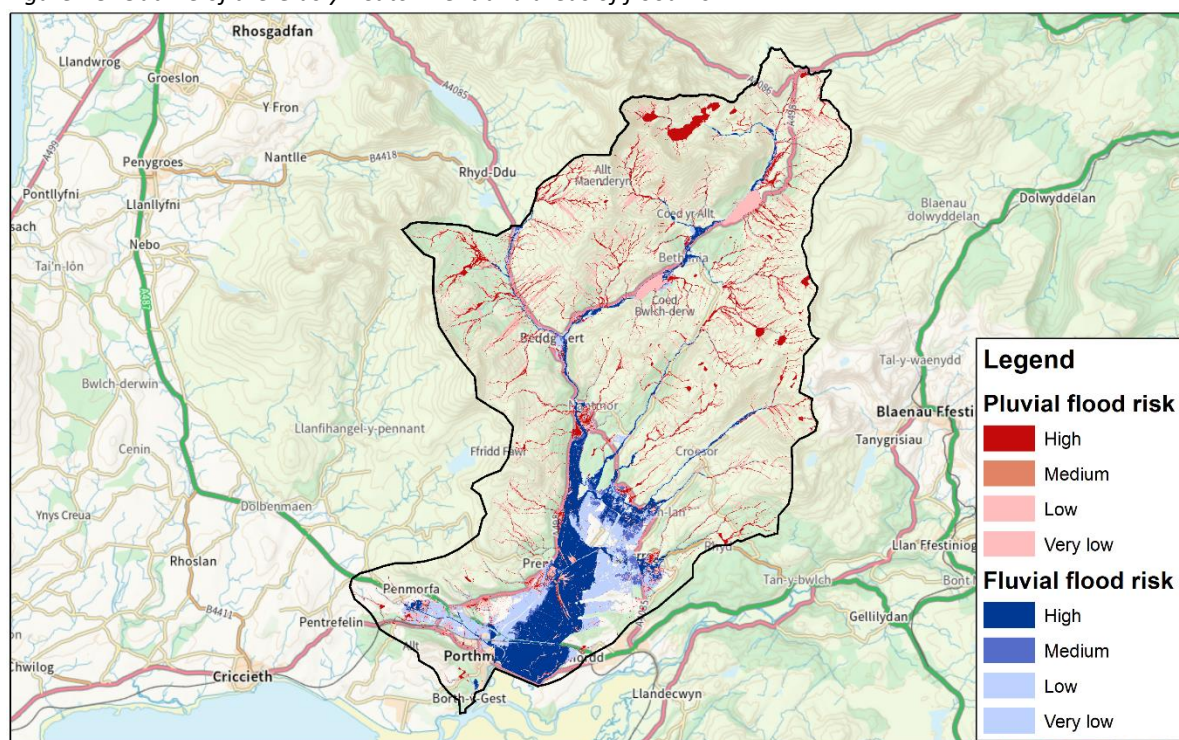
The receptors at risk of flooding in the catchment are almost entirely confined to the valley floors owing to the steep-sided nature of the hills in this area. There are distinct flood risk hot-spots in Abergynolwyn, Llwyngwrl, Brynccrug and Llanergyn owing to the catchment's rapid transition from steep upland nature to flat, low energy nature.

Residential properties at the northern end of Tywyn are afforded protection from defences along the south bank of the Dysynni; fluvial defences also act to protect property in Brynccrug. Large, formal flood embankments run along the Afon Dysynni along its upper reaches within the Pennant valley to protect agricultural land within the floodplain. Similar defences run along the floodplains of the Dysynni and Fathew at their confluence.

Cyngor Gwynedd holds records of 16 flooding incidents within the catchment since 2011. Of those that have been reported, most occurred in summer 2012 due to the Afon Dysynni breaking its banks in Abergynolwyn following heavy rainfall.

Catchment 7: Glaslyn

Figure A8: Outline of the Glaslyn Catchment and areas of flood risk



The Glaslyn catchment has its headwaters amongst the highest peaks of Eryri, and quickly transitions into a low energy, estuarine environment with a broad floodplain. The catchment includes the communities of Beddgelert, Nantgwynant, Nantmor, Llanfrothen, Tremadog and Porthmadog. The largest watercourses within the catchment include the Glaslyn, Colwyn and Croesor.

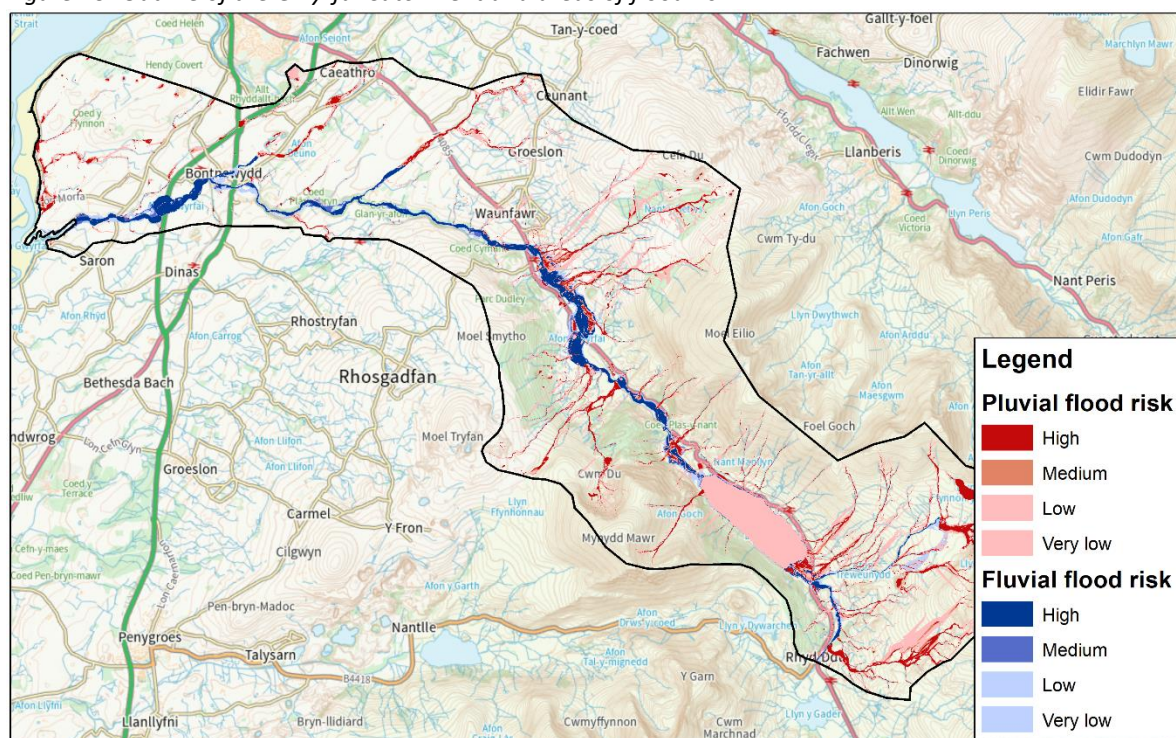
The receptors at risk of flooding in the catchment are mostly confined to Beddgelert, Tremadog and Porthmadog and associated with flooding from the main rivers. However, surface water flood risk also exists throughout all built-up areas, and there are a number of more rural properties scattered throughout the catchment which are at risk of surface water/small watercourse flooding.

The centre of Beddgelert is defended by flood walls along the north and south banks of the Colwyn, and the north and south banks of the Glaslyn. The network of watercourses and surface water systems through Porthmadog and Tremadog are heavily influenced by the tidal gates at Cob Crwn, and flood defences exist along Y Cyt to protect properties along the northern parts of Porthmadog. Climate change effects are likely to result in more properties along Y Cyt becoming at risk from fluvial flooding in the future.

Gwynedd Council holds records of 77 flooding incidents within the catchment since 2011. In late December 2015 in the floodplain areas surrounding Tremadog, many small watercourses were overwhelmed by prolonged, heavy rainfall which prompted flooding problems. Shortly afterwards in mid-January 2016, following heavy rainfall in the upper catchment, Beddgelert suffered severe flooding from the Afon Colwyn and Glaslyn. Beddgelert also suffered significant flooding from the Colwyn in August 2020.

Catchment 8: Gwyrfai

Figure A9: Outline of the Gwyrfai Catchment and areas of flood risk



The Gwyrfai catchment has its headwaters amongst the highest peaks of Eryri, and includes the communities of Rhyd Ddu, Betws Garmon, Waunfawr, Caeathro, Bontnewydd and Llanfaglan. The largest watercourses within the catchment include the Gwyrfai and Beuno.

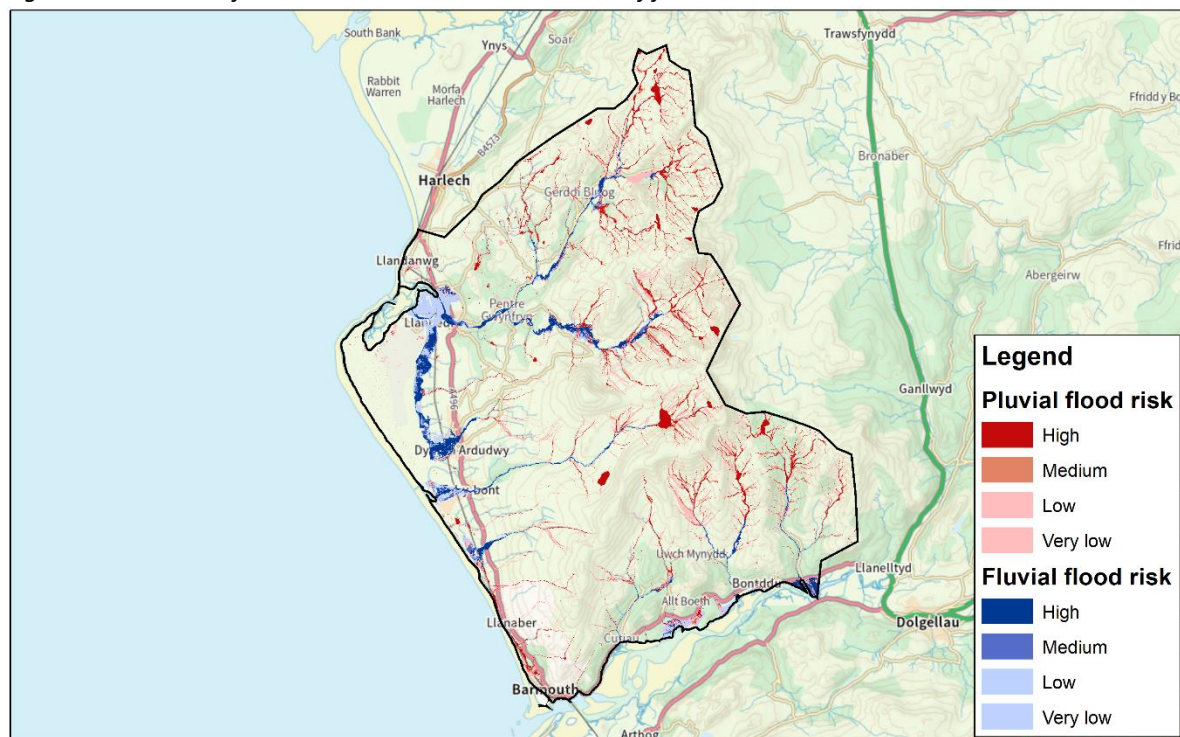
The receptors at risk of flooding in the catchment are mostly confined to Waunfawr and Bontnewydd, however there are a number of receptors scattered evenly throughout the catchment which are at risk of surface water flooding. Bontnewydd is located directly on the confluence of the Gwyrfai and Beuno and facing risk of flooding from both watercourses. A flood defence exists along the north bank of the Gwyrfai as it passes Glanrafon estate.

Numerous streams and drainage ditches flow through Waunfawr from higher ground, many of which are culverted beneath built-up areas in the village, which often results in surface water related issues during high-intensity rainfall events.

Cyngor Gwynedd holds records of 45 flooding incidents within the catchment since 2011. In late December 2015, Bontnewydd suffered extensive flooding due to a prolonged heavy rainfall event. Many surface water flooding incidents were reported over Winter 2012 in the areas in and surrounding Waunfawr, with the period between October 2012 and February 2013 being a much wetter than average winter. There is also a history of flooding problems at Gwyrfai Terrace to the south of Waunfawr.

Catchment 9: Llanbedr

Figure A10: Outline of the Llanbedr Catchment and areas of flood risk



The Llanbedr catchment forms a group of small rivers flowing from east to west from the slopes of the Rhinog hills to the coast. The catchment includes the communities of Llanbedr, Dyffryn Ardudwy, Tal-y-bont, Llanaber, Barmouth and Bontddu. The largest watercourses within the catchment include the Artro, Cwmnantcol, Ysgethin, Dwynant, Cwm llechen, and Cwm-mynach.

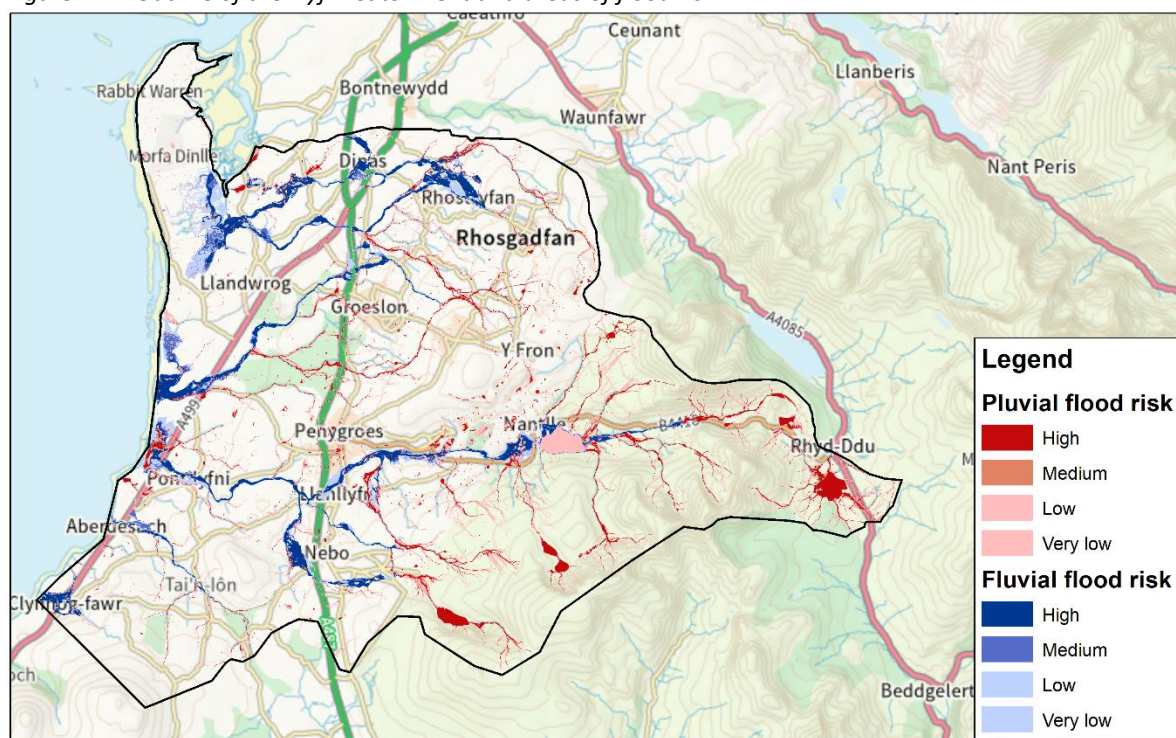
Within this catchment there are concentrations of receptors at flood risk at the centre of Llanbedr and in Talybont, linked to potential flooding from the Artro and Ysgethin respectively. There is also a collection of receptors at risk in the low-lying area to the rear of Barmouth north promenade linked to potential flooding of a watercourse which is culverted beneath Heol y Plas towards a pumping station on the promenade allowing the watercourse to discharge onto the frontage during periods of high tide.

Flood defences are present on the right-hand bank of the Artro as it flows through Llanbedr and also along the tidal section to the west of the A496. A short section of defences are also present on the right-hand bank of the Ysgethin as it approaches the mainline railway to the west of Talybont.

Cyngor Gwynedd holds records of 27 flooding incidents within the catchment since 2011. Most reports were filed in 2020 and 2021, almost all of which were surface water related. Two notable concentrations of incidents appear in Barmouth and Dyffryn Ardudwy, possibly owing to the steepness of the hills to the east.

Catchment 10: Llyfni

Figure A11: Outline of the Llyfni Catchment and areas of flood risk



The Llyfni catchment lies on the western fringes of Eryri and contains several upland sub-catchments. The catchment includes the communities of Nantlle, Talysarn, Llanllyfni, Penygroes, Pontllyfni, Rhostryfan, Groeslon, Y Fron, Bethesda Bach, Clynnog Fawr and Llandwrog. The largest watercourses within the catchment include the Llyfni, Desach, Llifon, and Rhyd. The catchment contains Llyn Nantlle Uchaf, Llyn Cwm Dulyn and Llynau Cwm Silyn.

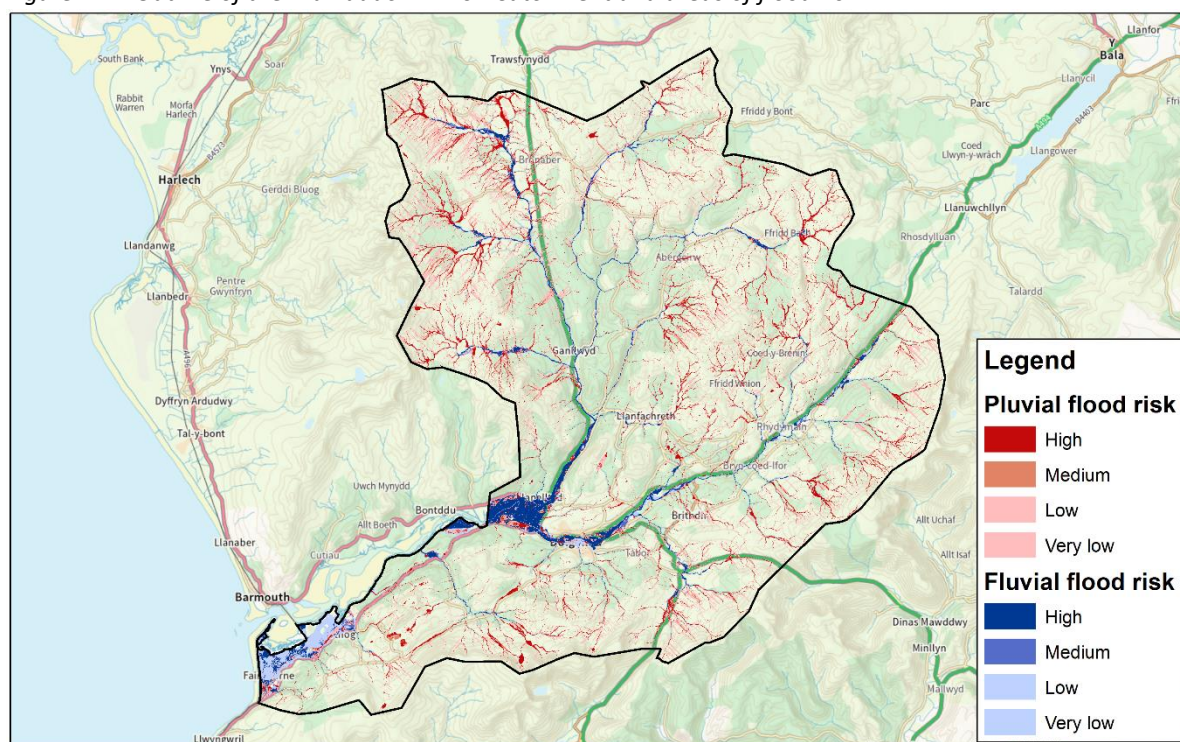
The receptors at risk of flooding are spread across the many villages of the catchment. Notable flood-prone areas include Rhostryfan, Groeslon, Talysarn, Llanllyfni, Pont Llyfni and Clynnog Fawr. No formal inland flood defences exist within the catchment.

Cyngor Gwynedd holds records of 95 flooding incidents within the catchment since 2011. Flood reports (mostly surface water related) were filed over Winter 2012 across a wide area of the catchment. Rhostryfan and Clynnog Fawr have seen a number of flood reports being submitted due to recent, high intensity storm events.

See section 7 of the Local Strategy for details of a flood risk management scheme recently completed by Cyngor Gwynedd in Rhostryfan.

Catchment 11: Mawddach Wnion

Figure A12: Outline of the Mawddach Wnion Catchment and areas of flood risk



The Mawddach Wnion catchment has headwaters in the surrounding uplands before flowing towards estuarine floodplains, and then into the sea. The catchment includes the communities of Bronaber, Ganllwyd, Llanelltyd, Llanfachraeth, Rhydymain, Brithdir, Dolgellau, Arthog, and Fairbourne. The largest watercourses within the catchment include the Mawddach, Wnion, Eden, Gwynant and Clwydog.

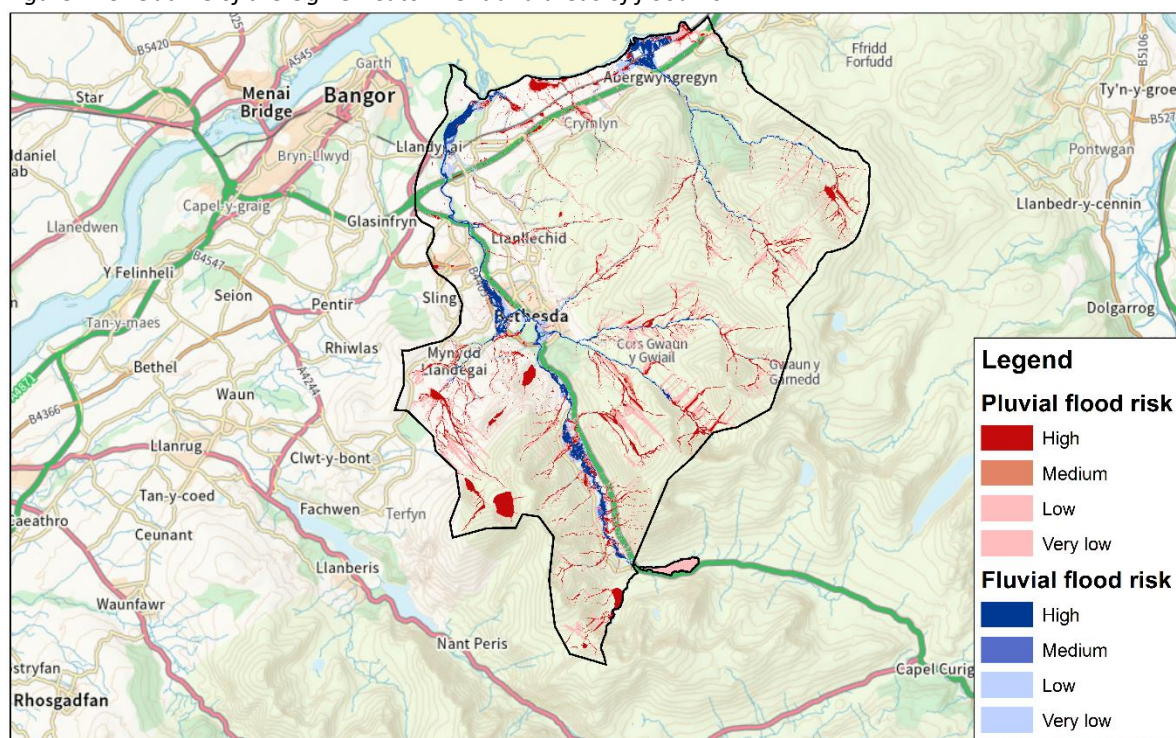
Although there is an even distribution of receptors at flood risk across most of the lower-lying areas of the catchment, the majority of risk confined to Fairbourne and Dolgellau. Dolgellau lies at the confluence of the Wnion and Arran and is at particular risk of flooding from fluvial/pluvial sources as its town centre has been built on an alluvial fan which is now defended by continuous lengths flood walls. The coastal town of Fairbourne has a complex combination of tidal, fluvial and pluvial flood risk due to its situation of a reclaimed salt marsh immediately adjacent to the Afon Mawddach and Cadair Idris hills and is defended from the tidal reach of the Mawddach where it enters the sea by a flood bank.

Cyngor Gwynedd holds records of 8 flooding incidents within the catchment since 2011. Of those recorded, most have been in Dolgellau due to surface water issues.

See section 7 of the Local Strategy for details of a NFM scheme recently completed by Cyngor Gwynedd in the Wnion catchment.

Catchment 12: Ogwen

Figure A13: Outline of the Ogwen Catchment and areas of flood risk



The Ogwen catchment comprises several large watercourses which have their headwaters amongst the highest peaks of Eryri. The catchment includes the communities of Bethesda, Mynydd Llandegai, Rachub, Tregarth, Llandygai, Talybont, and Abergwyngregyn. The largest watercourses within the catchment include the Ogwen, Galedffrwd, Caseg, Aber, Llafar and Ffrydlas.

The villages of Mynydd Llandegai, Bethesda, and Talybont are well-known problem areas for flooding within the catchment although there are a number of other isolated receptors at risk from surface water. Bethesda spreads across the Afon Ogwen's confluence with the Galedffrwd, Caseg, and Ffrydlas, making it particularly liable to extreme rainfall events. Talybont is now protected by a flood alleviation scheme but did historically suffer from intense rainfall events via the small watercourse flowing from the Llanllechid area. Mynydd Llandegai has a recent history of flooding from various sources.

Cyngor Gwynedd holds records of 89 flooding incidents within the catchment since 2011. Of those recorded, most have been in Bethesda due to surface water issues, or in Talybont in response to the severe flooding that occurred in February, 2013.

See section 7 of the Local Strategy for details of a flood risk management scheme recently completed by Cyngor Gwynedd near Talybont.

Catchment 13: Penllyn

Figure A14: Outline of the Penllyn Catchment and areas of flood risk



The Penllyn catchment comprises a selection of small watercourses on the northern and western coast of the Llyn Peninsula and is not centred around any principal river catchment due to the peninsula's shape. The catchment includes the communities of Trefor, Llanaelhaearn, Nefyn, Tudweiliog, Aberdaron, Sarn Mellteyrn, Mynytho, Botwnnog, Llanbedrog and Abersoch. The largest watercourses within the catchment include the Soch, Daron, Cyllfelin, Horon, Elernion and Fawr.

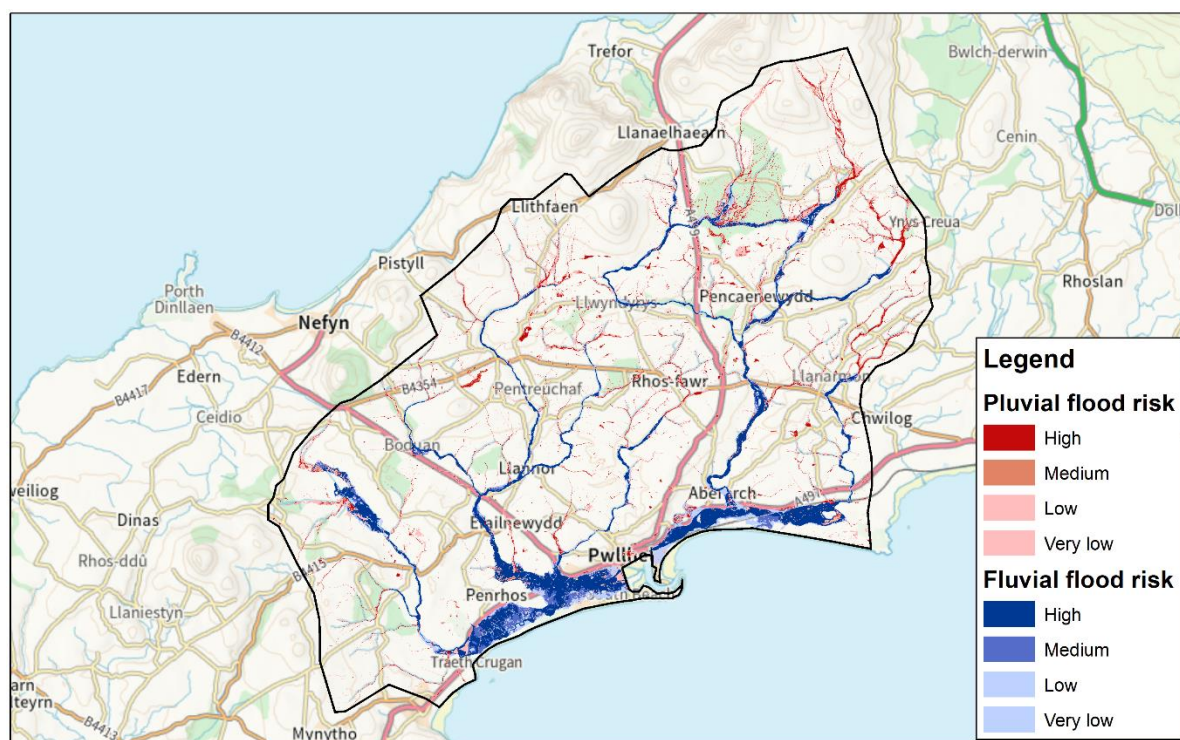
Due to the largely agrarian nature of the catchment, the receptors at risk are mostly spread out evenly. However, there are small concentrations of receptors at risk from flooding in Botwnnog, Aberdaron and Llanbedrog.

The centre of the village of Aberdaron is protected from the Afon Daron and Cyllfelin by a series of flood walls. Also, two short section of defences protect properties from river flooding in the centre of Botwnnog.

Cyngor Gwynedd holds records of 66 flooding incidents within the catchment since 2011. There seems to be no concentrations of these incidents, with a broad variety of reports detailing many different causes and sources in different years.

Catchment 14: Rhyd Hir Erch

Figure A15: Outline of the Rhyd Hir Erch Catchment and areas of flood risk



The Rhyd Hir Erch catchment centres around the town of Pwllheli, which sits on the confluence of the Afon Rhyd Hir and the Afon Erch, the headwaters of which are found in the areas running along the north coast of the Llyn Peninsula. The catchment includes the communities of Llithfaen, Y For, Rhyd-y-clafdy, Efailnewydd, Pwllheli, Abererch and Pencaenewydd. The largest watercourses within the catchment include the Rhyd Hir, Penrhos, Erch, Nant y Gledrydd, Ddwrydd, and Ddu.

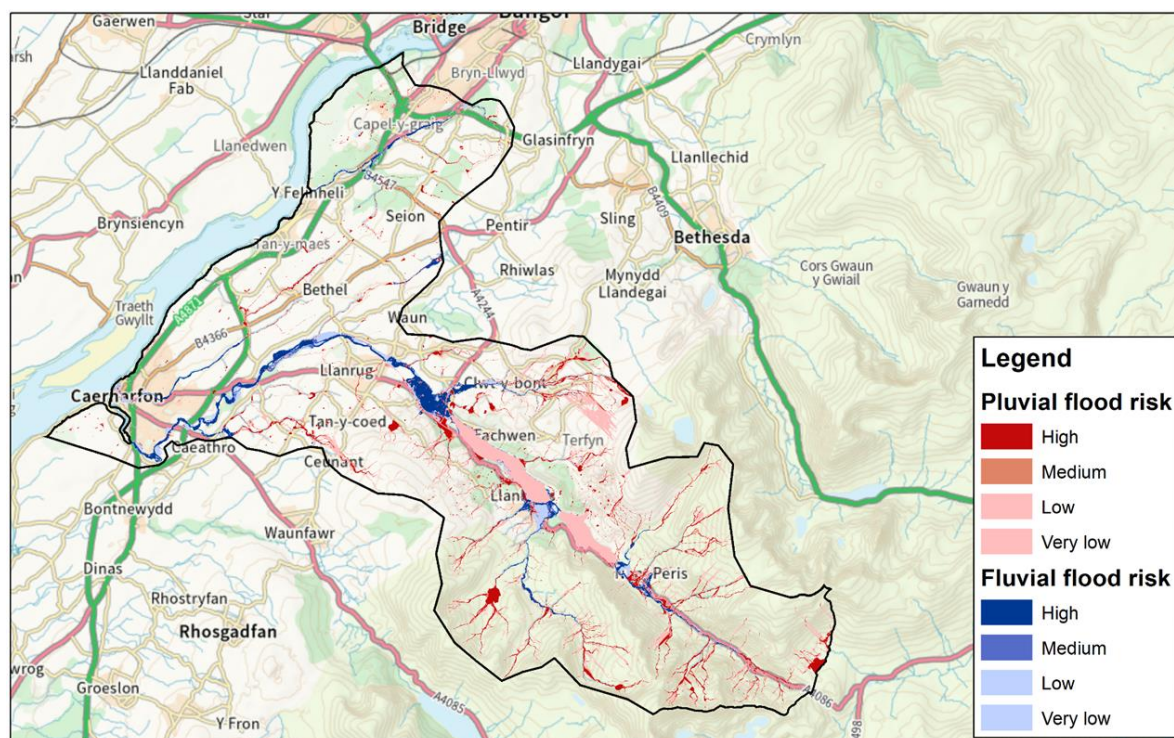
Most of the receptors at risk are in Pwllheli, with the town lying on the floodplain of two main rivers. Both the Rhyd Hir and Erch are heavily influenced by the tidal gates at Pwllheli harbour which prevent tidal ingress at high tide, and as expected most receptors at risk of flooding are within the expanded flood plains of these rivers. Surface water flooding problems are also prevalent in Pwllheli due to the flat nature of the drainage systems as well as tide-locking effects. Numerous properties in the centre of Abererch are also at risk of fluvial flooding. The expansion of these floodplains due to climate change effects in the future is likely to introduce flood risk to more properties.

The centre of Pwllheli is currently protected by flood walls and embankments either side of Cob Bach (upstream of the Rhyd Hir tidal gate), and a flood embankment along the west bank of the Erch serves properties at flood risk within Abererch.

Cyngor Gwynedd holds records of 63 flooding incidents within the catchment since 2011. Of those recorded, most have been in Pwllheli due to surface water issues (overwhelmed domestic gullies) in November 2012. There are other flood reports scattered across the catchment from the winters of 2019 and 2021.

Catchment 15: Seiont

Figure A16: Outline of Seiont Catchment and areas of flood risk



The Seiont catchment contains the sub-catchments of the Seiont, Caledffrwd, Cadnant and Afon Heulyn and includes the communities of Bethel, Caernarfon, Deiniolen, Llanberis, Llanrug and Y Felinheli.

Receptors of flood risk due to surface water and small watercourses are spread throughout the catchment, however clusters of fluvial flood risk receptors are located along the route of the larger rivers at Llanberis (Afon Goch and Afon Hwch), Cwm y Glo (Seiont), Caernarfon (Seiont and Cadnant) and Deiniolen (Caledffrwd). Properties are afforded protection from flooding by purpose-built defences at Llanberis (Afon Goch) and Cwm y Glo (Seiont).

Cyngor Gwynedd holds records of 187 incidents within the catchment since 2011, most of which occurred following a significant rainfall event in November 2012 when the centre of Llanberis suffered severe flooding as the Afon Goch breached its banks, the same event saw numerous properties in Deiniolen affected by flooding.

See section 7 of the Local Strategy for details of a flood risk management scheme recently completed by Cyngor Gwynedd in Llanberis, which protects numerous properties in the centre of the village.

Catchment	Communities	Number of properties at flood risk ²					Number of Essential Services / Non-residential properties at flood risk ³	Number of known incidents ⁴	Current flood risk management schemes/studies ⁵
		Total	High risk	Medium risk	Low risk	Very Low risk			
Adda-Cegin	Bangor Penrhosgarnedd Glasinfryn Minffordd Pentir Rhiwlas Sling	353	17	80	153	103	60	28	Natural Resources Wales Location: Bangor Source: River Measure: Update hydraulic model Status: Ongoing
Corris	South Tywyn Aberdyfi Pennal Corris Dinas Mawddwy Mallwyd Aberllefenni	272	88	34	104	46	52	15	Cyngor Gwynedd Location: Aberllyfenni Source: Surface water and small watercourses Measure: Explore options to manage flood risk concerns towards the northern end of the village where the Afon Llyfenni regularly breaks its banks during periods of heavy rainfall Status: Not started
									Natural Resources Wales Location: Pennal Source: River Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Not started
Dwyfor	Chwilog Cwm Pennant Garndolbenmaen Criccieth Morfa Bychan Bryncir Pant Glas	125	31	16	42	36	38	51	Cyngor Gwynedd Location: Criccieth Source: Surface water and small watercourses Measure: Following widespread surface water flooding in June 2022 Cyngor Gwynedd have initiated a study to assess the capacity and condition of the surface water drainage network in the areas affected. This study will identify areas of most concerns as well as sustainable options to improve flood risk for the community. Status: Ongoing (Strategic Outline Case)
									Natural Resources Wales Location: Criccieth Source: River Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Not started
Dwyrdd	Blaenau Ffestiniog Llan Ffestiniog Gelliylidan Llandecwyn Penrhyndeudraeth Harlech Trawsfynydd	654	83	100	355	116	131	38	Cyngor Gwynedd Location: Blaenau Ffestiniog Source: Surface water and small watercourses Measure: Study to assess the capacity and condition of the surface water drainage network in the areas in Manod affected by persistent surface water flooding issues. Status: Not started
									Cyngor Gwynedd Location: Summerhill Terrace, Blaenau Ffestiniog Source: Surface water and small watercourses

² See main document section 9.1

³ See main document section 9.1

⁴ Number of individual properties known to have suffered from internal flooding according to records held by Cyngor Gwynedd

⁵ NRW Schemes and/or studies are as listed in FRMP Delivery Plan for North West Wales Place

									<p>Measure: Small improvement to address persistent local surface water flooding issues Status: Not started</p> <p>Cyngor Gwynedd Location: Y Sgwar, Blaenau Ffestiniog Source: Surface water and small watercourses Measure: Small improvement to address persistent local surface water flooding issues Status: Not started</p> <p>Cyngor Gwynedd Location: Ffordd Uchaf, Harlech Source: Surface water and small watercourses Measure: Small improvement to address persistent local surface water flooding issues Status: Not started</p> <p>Cyngor Gwynedd Location: Ffordd Newydd, Harlech Source: Surface water and small watercourses Measure: Small improvement to address persistent local surface water flooding issues ner the bottom of Twtil Status: Not started</p> <p>Cyngor Gwynedd Location: Penrhyndeudraeth Source: Surface water and small watercourses Measure: Scheme to reduce surface water flood risk to properties at Trem yr Wyddfa Status: On hold</p>
Dyfrdwy	Bala Llanuwchllyn Llandderfel Frongoch Talardd Llanfor Glan Yr Afon	800	112	37	573	78	276	5	<p><i>Natural Resources Wales</i> Location: Bala Source: River Measure: Improve existing flood warning service Status: Ongoing</p> <p><i>Natural Resources Wales</i> Location: Bala Source: River Measure: Update existing hydraulic model Status: Ongoing</p> <p><i>Natural Resources Wales</i> Location: Bala Source: River Measure: Design and construction of flood risk asset improvements Status: Not started</p> <p><i>Natural Resources Wales</i> Location: Bala Source: River Measure: Maintain existing defences and inspection regime Status: Ongoing</p> <p><i>Natural Resources Wales</i> Location: Llanuwchllyn Source: River Measure: Develop scheme appraisal for flood alleviation scheme Status: Ongoing</p>

									<p>Natural Resources Wales Location: Llanuwchllyn Source: River Measure: Improve existing flood warning service Status: Not started</p>
									<p>Natural Resources Wales Location: Llyn Tegid Source: River Measure: Improve existing flood warning service Status: Not started</p>
Dysynni	North Tywyn Bryncrug Llwyngwril Abergynolwyn Llangelynnin Tal Y Llyn Rhyd Yr Onen	378	145	56	117	60	110	16	<p>Natural Resources Wales Location: Tywyn Source: River Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Ongoing</p>
									<p>Natural Resources Wales Location: Tywyn Source: River Measure: Improve existing flood warning service Status: Not started</p>
									<p>Natural Resources Wales Location: Bryncrug Source: River Measure: Design and construction of flood alleviation scheme Status: Ongoing</p>
									<p>Natural Resources Wales Location: Bryncrug Source: River Measure: Maintain existing defences and inspection regime Status: Ongoing</p>
Glaslyn	Nant Gwynant Beddgelert Nantmor Tremadog Porthmadog Croesor Borth Y Gest	877	20	54	194	609	211	77	<p>Natural Resources Wales Location: Porthmadog Source: River/Sea Measure: Improve existing flood warning service Status: Not started</p>
									<p>Natural Resources Wales Location: Porthmadog Source: River Measure: Develop scheme appraisal for flood alleviation scheme Status: Ongoing</p>
									<p>Natural Resources Wales Location: Beddgelert Source: River Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Ongoing</p>

									<p><i>Natural Resources Wales</i> <i>Location: Beddgelert</i> <i>Source: River</i> <i>Measure: Improve existing flood warning service</i> <i>Status: Not started</i></p>
Gwyrfai	Llanfaglan Caeathro Bontnewydd Waunfawr Betws Garmon Ceunant Rhyd Ddu	140	22	20	74	24	31	45	<p>Cyngor Gwynedd <i>Location:</i> Bontnewydd <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Flood risk management measures along the course of the Afon Beuno as it flows through Bontnewydd, to improve in-channel capacity and improve unobstructed conveyance of peak flows following periods of heavy rainfall. <i>Status:</i> Ongoing (Full Business Case/Detailed Design)</p>
									<p>Cyngor Gwynedd <i>Location:</i> Beuno Catchment <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Identification and implementation of Natural Flood Management upstream of Bontnewydd to store surface water run-off and reduce peak flows further downstream. <i>Status:</i> Ongoing</p>
									<p>Cyngor Gwynedd <i>Location:</i> Waunfawr <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Study to establish flood risk and identify flood risk management measures at two specific areas of concern near Croes-y-waun and Pant-y-waun following series of flooding problems over recent years. <i>Status:</i> Ongoing (Full Business Case/Detailed Design)</p>
									<p>Cyngor Gwynedd <i>Location:</i> Waunfawr <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Small scale scheme to repair and improve section of culverted watercourse upstream of Pen-y-bont following incidents of flooding in 2023. <i>Status:</i> Not started</p>
									<p><i>Natural Resources Wales</i> <i>Location: Betws Garmon</i> <i>Source: River</i> <i>Measure: Undertake initial assessment and feasibility work for reducing flood risk</i> <i>Status: Ongoing</i></p>
									<p><i>Natural Resources Wales</i> <i>Location: Bontnewydd</i> <i>Source: River</i> <i>Measure: Design and construction of flood risk asset improvements</i> <i>Status: Ongoing</i></p>
Llanbedr	Llanfair Llanbedr Llanddwywe Dyffryn Ardudwy Llanaber Abermaw Bontddu	255	16	41	123	59	46	27	<p>Cyngor Gwynedd <i>Location:</i> Dyffryn Ardudwy <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Study to investigate flood risk associated with an unnamed watercourse that passes through the centre of the village near the site of the old Berwyn Garage <i>Status:</i> Not started</p>

									<p><i>Natural Resources Wales</i> <i>Location: Gwehelog-Mochras</i> <i>Source: River</i> <i>Measure: Undertake initial assessment and feasibility work for reducing flood risk</i> <i>Status: Not started</i></p>
Llyfni	Penygroes Rhostryfan Nantlle Talysarn Pontllyfni Llanllyfni Aberdesach	495	205	64	123	103	63	95	<p>Cyngor Gwynedd <i>Location:</i> Clynnog Fawr <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Deliver scheme to reduce risk of flooding from unnamed ordinary watercourses that flows towards the village from the south-east, near Llwyn y Ne <i>Status:</i> Ongoing (Full Business Case/Detailed Design)</p>
									<p>Cyngor Gwynedd <i>Location:</i> Groeslon <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Deliver scheme to reduce risk of flooding from unnamed ordinary watercourses near Cae Sarn and Dyffryn Terrace <i>Status:</i> Ongoing (Full Business Case/Detailed Design)</p>
Mawddach - Wnion	Dolgellau Fairbourne Brithdir Ganllwyd Llanfachraeth Arthog Llanelltyd	994	54	33	676	231	385	8	<p>Cyngor Gwynedd <i>Location:</i> Bridge Street, Dolgellau <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Study to identify solution for local surface water flooding issues near Bridge Street <i>Status:</i> Not started</p>
Ogwen	Llandygai Tal Y Bont Abergwyngregyn Tregarth Bethesda Mynydd Llandegai Rachub	412	52	37	254	69	81	89	<p>Cyngor Gwynedd <i>Location:</i> Mynydd Llandegai <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Study to establish flood risk and identify flood risk management measures at various locations across the village following series of flooding problems over recent years <i>Status:</i> Ongoing (Full Business Case/Detailed Design)</p>
									<p>Cyngor Gwynedd <i>Location:</i> Mynydd Llandegai <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Identification and implementation of Natural Flood Management in the catchment surrounding Mynydd Llandegai, to store surface water run-off and reduce peak flows further downstream. <i>Status:</i> Ongoing</p>
									<p><i>Natural Resources Wales</i> <i>Location: Abergwyngregyn</i> <i>Source: River</i> <i>Measure: Build hydraulic model</i> <i>Status: Ongoing</i></p>
Penllyn	Aberdaron Botwnnog Abersoch Mynytho Tudweiliog Nefyn Morfa Nefyn	246	62	43	115	26	103	66	<p>Cyngor Gwynedd <i>Location:</i> Lon Mynydd, Nefun <i>Source:</i> Surface water and small watercourses <i>Measure:</i> Small improvement to address local surface water flooding issues near Lon Mynydd <i>Status:</i> Not started</p>

Rhyd Hir-Erch	Abererch Pencaenewydd Llangybi Y Ffor Llannor Efailnewydd Pwllheli Boduan	472	62	67	247	96	156	63	<p>Cyngor Gwynedd Location: Pencaenewydd Source: Surface water and small watercourses Measure: Improvement scheme to reduce flood risk to the centre of the village following previous incidents of multi-property flooding, most recently in 2021. Status: Ongoing</p>
									<p>Cyngor Gwynedd Location: Ffordd Mela, Pwllheli Source: Surface water and small watercourses Measure: Small improvement to address local surface water flooding issues near Ffordd y Mela Status: Not started</p>
									<p><i>Natural Resources Wales</i> Location: Pwllheli Source: River/Sea Measure: Update existing hydraulic model Status: Ongoing</p>
									<p><i>Natural Resources Wales</i> Location: Pwllheli Source: River/Sea Measure: Develop scheme appraisal for flood alleviation scheme Status: Ongoing</p>
Seiont	Nant Peris Llanberis Deiniolen Llanrug Bethel Caernarfon Felinheli	611	79	39	339	154	272	187	<p>Cyngor Gwynedd Location: Caernarfon Source: River Measure: Scheme to improve the intake structure of the Afon Cadnant below Maes Cadnant to reduce likelihood of blockages and subsequent risk of flooding (main river but Council owned asset). Status: Ongoing (Full Business Case/Detailed Design)</p>
									<p>Cyngor Gwynedd Location: Dolafon Source: Surface water and small watercourses Measure: Scheme to improve capacity of culverted watercourse system beneath Dolafon estate and reduce risk of flooding for surrounding properties. Status: On hold</p>
									<p>Cyngor Gwynedd Location: Llanrug Source: Surface water and small watercourses Measure: Small scheme to improve surface water drainage capacity at the northern end of Glanffynnon estate Status: Ongoing</p>
									<p><i>Natural Resources Wales</i> Location: Caernarfon (Seiont Mill) Source: River Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Ongoing</p>

Coastal risk by area

The following section describes coastal flood risk in greater detail by considering each coastal Management Area in its turn. Management Areas (MA) along the Gwynedd coastline have been defined within the Shoreline Management Plan (SMP2), and represent a length of the coastline where the various frontages are interdependent in terms of coastal processes, and therefore should be managed as a collective to achieve the desired environmental outcome. With this in mind the policies for neighbouring frontages within a MA are designed to complement each other.

Management Areas in Gwynedd extend from MA 20 on the north side of the Dyfi estuary to MA 46 on the north coast, to the east of the mouth of the Afon Ogwen (see Figure B1 below).

The nature and setting of each MA is described along with a description of the spatial distribution of flood risk zones, and how this corresponds with location of defences and changes in future shoreline policies. For a more detailed view of coastal risk distribution within an area of interest the reader is referred to the Flood Risk Assessment Wales maps on NRW's webpage.

Table B1 summarises the level of coastal risk within each MA in its turn and also lists coastal risk management schemes and/or studies which are ongoing at present or programmed for the future to address risks within each MA.

Management Area 20

Figure B2: Outline of Management Area 20 and areas at coastal flood risk



Management Area 20 extends from Pennal to Tonfannau and includes the communities of Bryn-crug, Tywyn, Aberdyfi and Pennal.

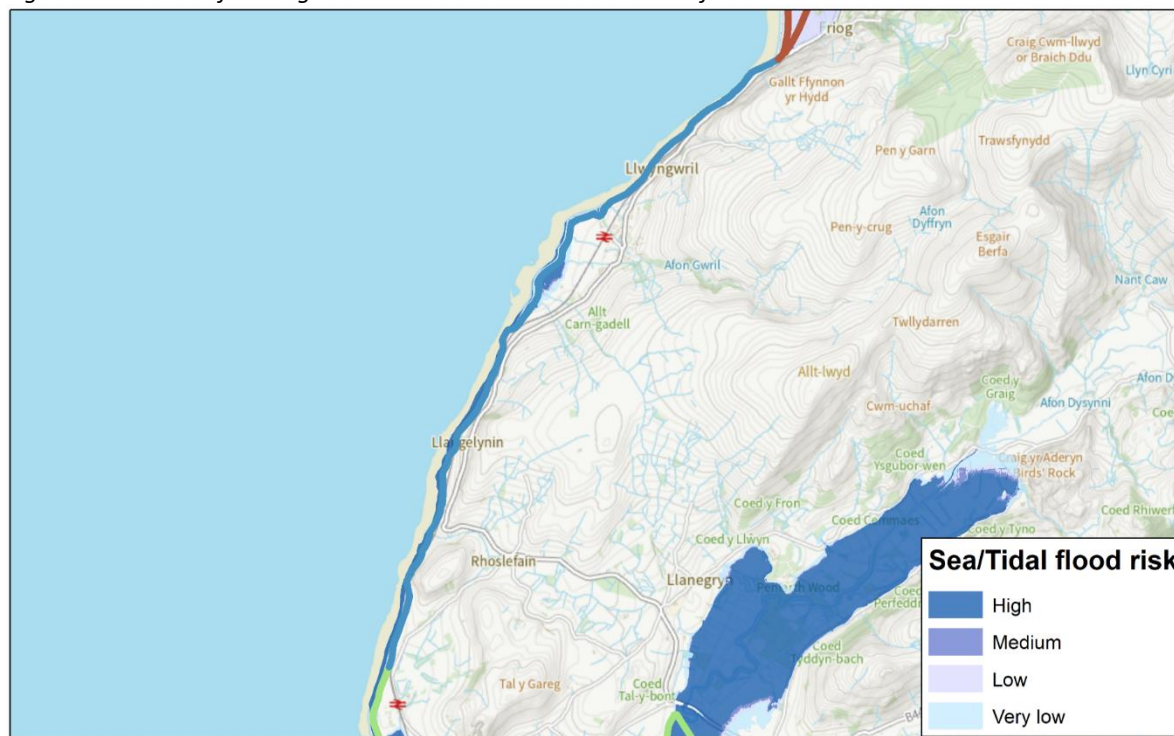
The main residential area at present day flood risk is the area surrounding Sandilands on the northern fringes of Tywyn which is currently defended from tidal ingress via the Dysynni to the north. Otherwise, large low-lying areas of the Dysynni and Dyfi Valleys are at flood risk as well as the Penllyn marshes to the south of Tywyn, which is currently defended from tidal ingress at the Afon Dyffryn Gwyn outfall.

Managed realignment policies apply to many of the existing defences along this Management Area although long-term Hold the Line policies apply for the main frontages of Tywyn and Aberdyfi.

See section 7 of the Local Strategy for details of a coastal risk management scheme completed by Cyngor Gwynedd in Tywyn.

Management Area 21

Figure B3: Outline of Management Area 21 and areas at coastal flood risk



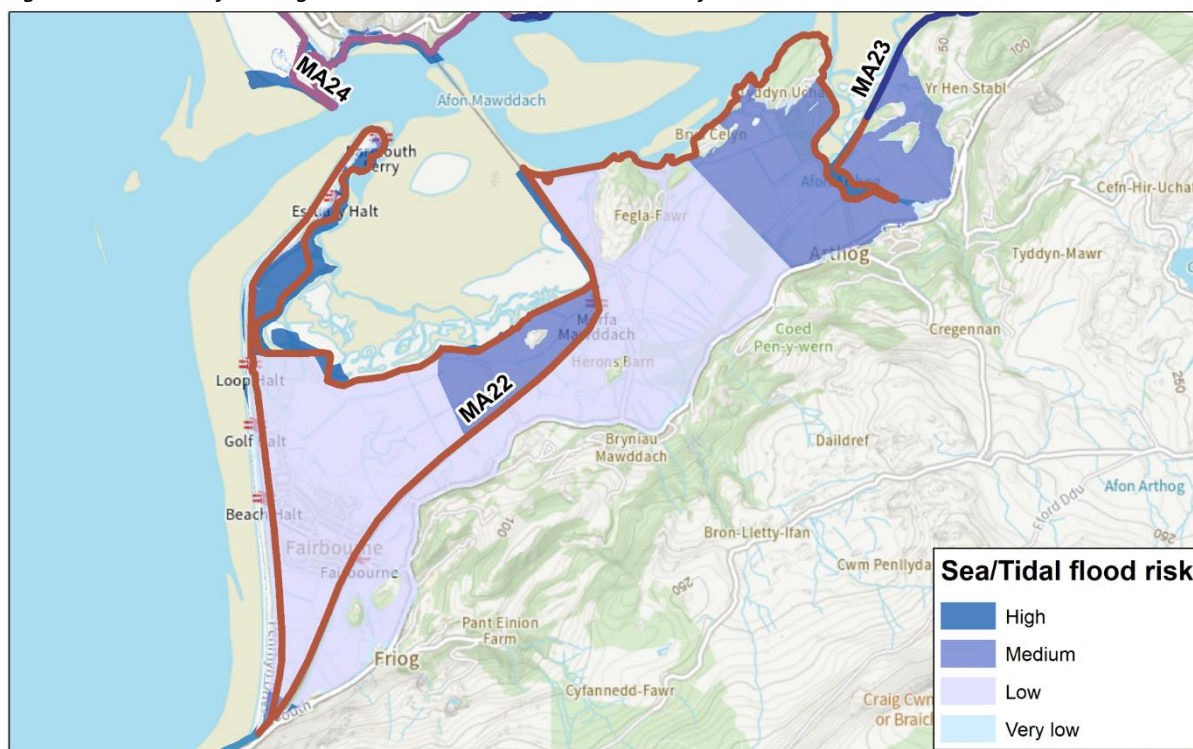
Management Area 22 extends from Tonfannau to Friog Cliffs and includes the communities of Llangylenin and Llwngwrl.

Ground level generally rises steeply from the shoreline in this location and therefore flood risk to property and essential services is low, although the coastal flood zone does extend into the low lying area to the south-west of Llwyngwyil, extending into the two holiday parks.

The shoreline policy for the majority of this MA is to hold the line due to the position of the railway line adjacent to the coast although there is a Managed Realignment section along the frontage facing Llwyngwril.

Management Area 22

Figure B4: Outline of Management Area 22 and areas at coastal flood risk

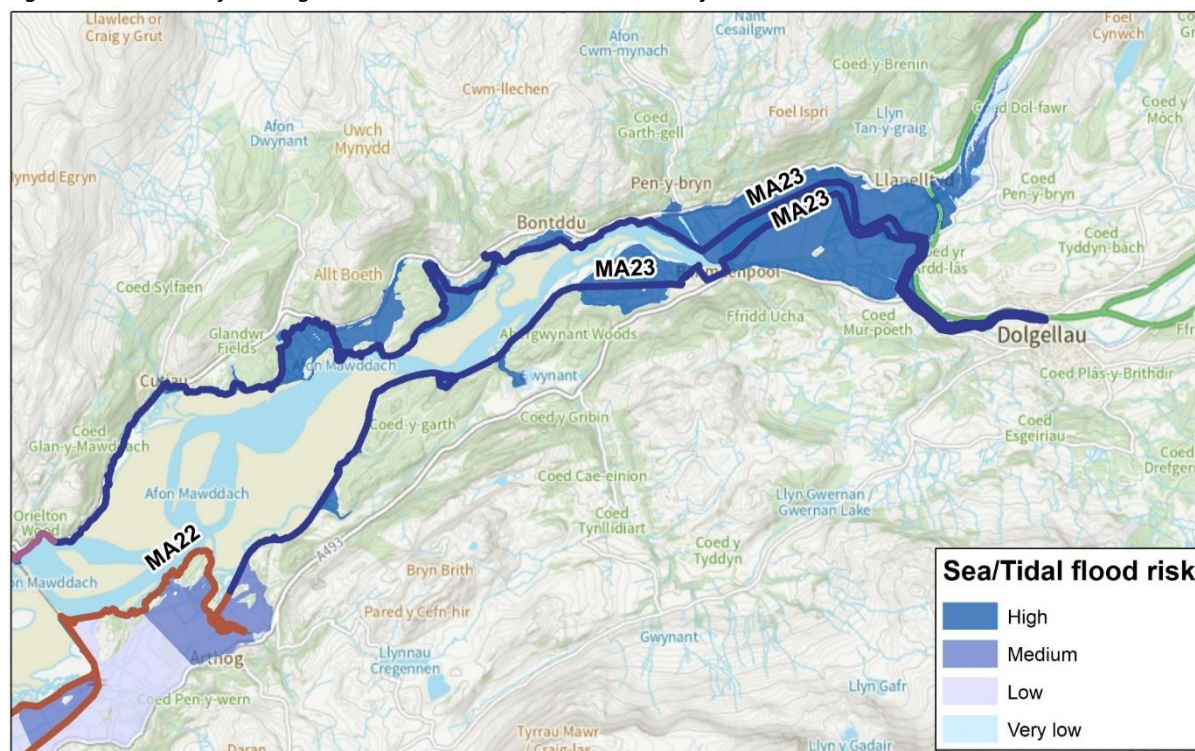


Management Area 22 extends from Friog Cliffs to Arthog and includes the communities of Friog, Fairbourne and Arthog, all of which are low-lying and heavily dependant on coastal defences, which include a shingle bank along the Fairbourne frontage and a tidal embankment along the southern banks of the Maddway estuary. Flood risk levels along this MA reflect the protection provided by these defences.

The SMP2 policy for this MA is for a gradual Managed Realignment of all defences and multi-agency efforts have been ongoing for a number of years to determine when and how defences could be retreated, and how resulting impacts upon these communities should be managed.

Management Area 23

Figure B5: Outline of Management Area 23 and areas at coastal flood risk



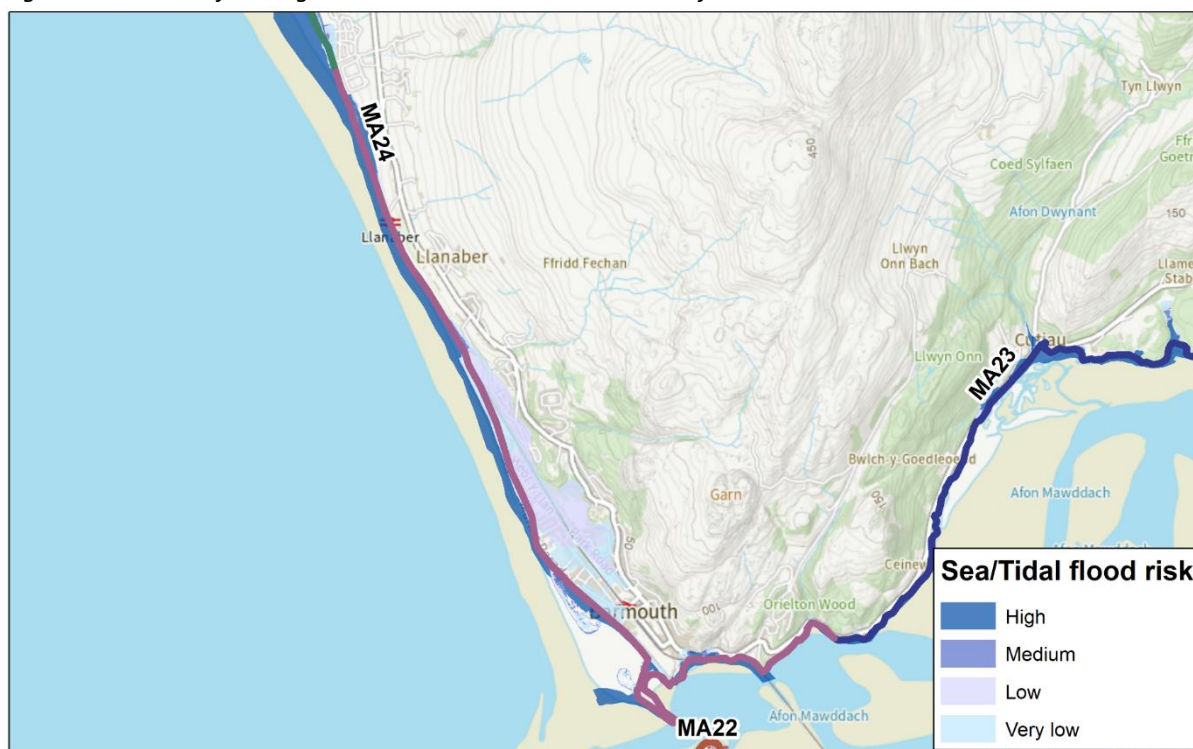
Management Area 23 extends along the lower reach of the Afon Mawddach from Arthog to Porth Aberamffra, and includes the communities of Arthog, Dolgellau, Llanelltyd and Bont-ddu.

Small clusters of high risk receptors exist on both sides of the Mawddach, namely at Penmaenpool, Abergwynant, Llanelltyd and Bont-ddu. With increase in tidal level due to climate change more low-lying receptors across the whole estuary will face risk of flooding, a cluster of which are located along the Afon Wnyn in Llanelltyd.

Private/informal flood defences exist on both sides of the estuary, with the old railway embankment along the south bank providing some protection to the low lying areas along its landward side. Managed realignment policies exist along most defended sections of the estuary.

Management Area 24

Figure B6: Outline of Management Area 24 and areas at coastal flood risk



Management Area 24 extends from Porth Aberamffra to Llanaber Point and includes the communities of Barmouth and Llanaber.

The receptors at high risk of flooding are mainly located around the harbour area of Barmouth, and nearby along Church Street. The centre of Barmouth is provided protection from coastal flooding from the sea wall along the length of the promenade, and the number of receptors in the low and very low risk columns emphasises the importance of these defences.

HTL coastal policies exist for all southern parts of Barmouth but this transitions to a medium/long-term MR policy for the northern promenade where pressure upon existing defences is much greater. To the north of Barmouth the shoreline is fixed by the mainline railway embankment and the policy reverts to HTL.

Management Area 25

Figure B7: Outline of Management Area 25 and areas at coastal flood risk



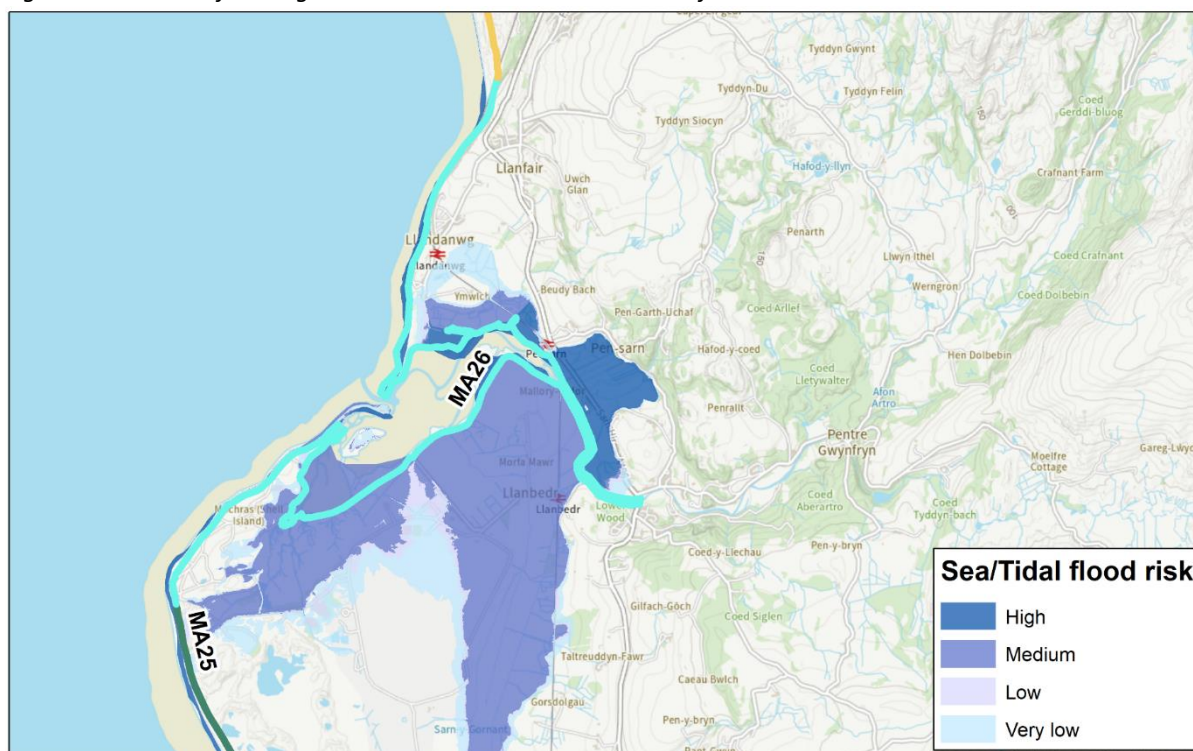
Management Area 25 extends from Llanaber Point to Mochras and includes the communities of Talybont and Dyffryn Ardudwy.

Coastal flood risk to residential properties and essential services is generally low along this area although the holiday parks between the shoreline and the mainline railway will face an increased flood risk in the future.

No formal defences exist along this frontage although isolated pockets of the frontage are served by private defences. The shoreline policy for the whole frontage is either MR or NAI.

Management Area 26

Figure B8: Outline of Management Area 26 and areas at coastal flood risk



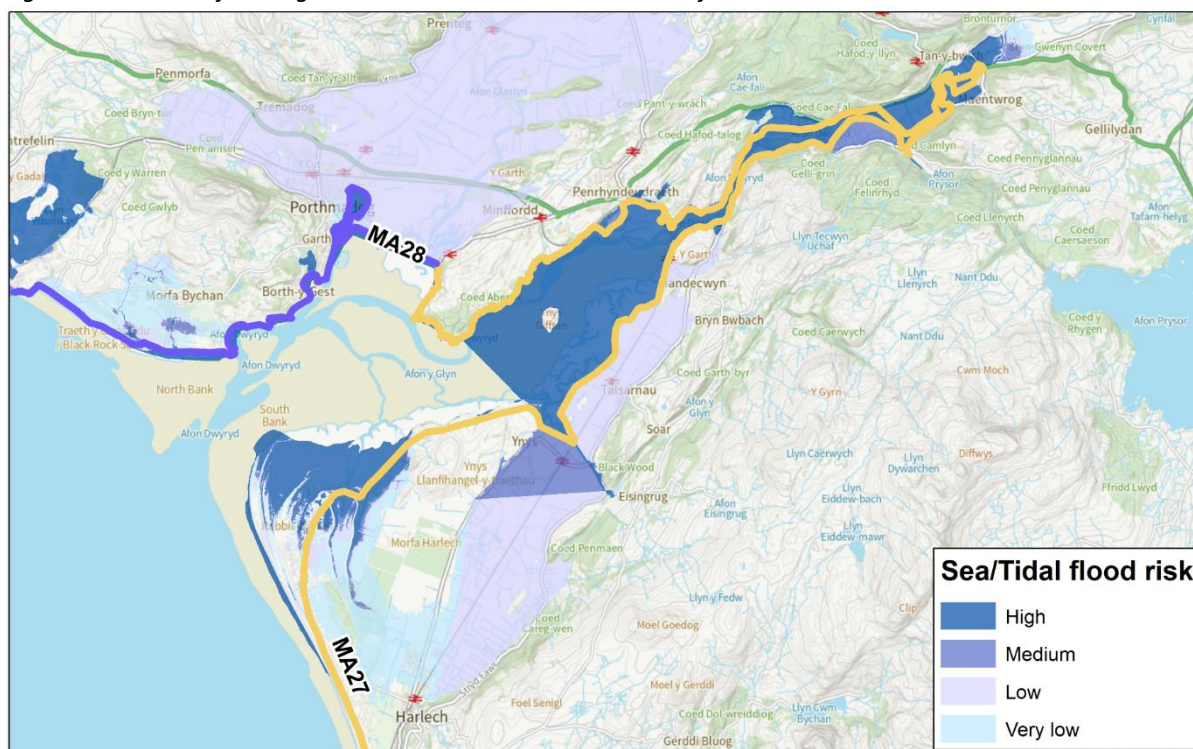
Management Area 26 extends from Mochras to Llanadanwg headland and includes the communities of Llanbedr, Pensarn and Llandanwg.

Both sides of the Artro estuary are served by defences and the majority of receptors at medium coastal flood risk are located within the low-lying area on the landward side of the southern defences. With an increase in sea level in the future more receptors within the lower lying areas of Llanbedr village become at risk from coastal flooding, along with residential receptors at the southern end of Llandanwg.

Future flood risk in the area is also likely to be influenced by shoreline policy, with the southern side of the Artro and the frontage at Llandanwg served by MR policies.

Management Area 27

Figure B9: Outline of Management Area 27 and areas at coastal flood risk



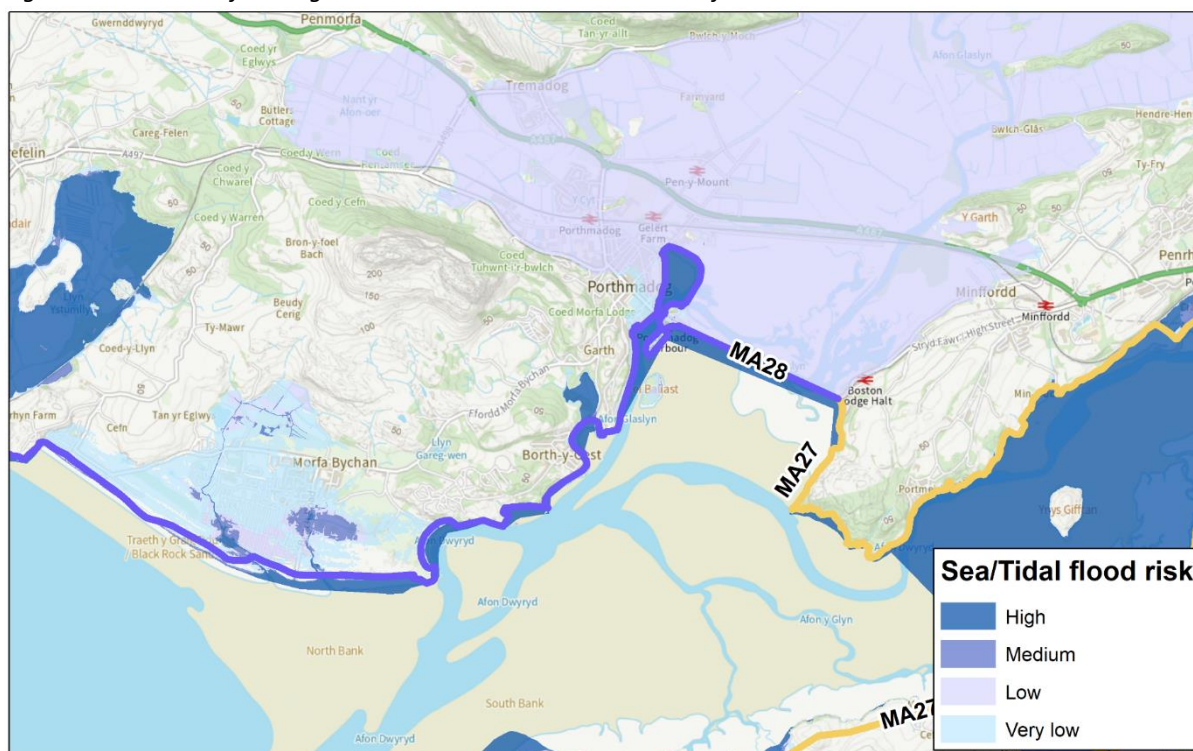
Management Area 27 extends from Llandanwg Headland to the east end of Porthmadog Cob and includes the communities of Harlech, Talsarnau, Llandecwyn, Maentwrog and Penrhyndeudraeth.

The receptors at risk of flooding are mostly located on the southern side of the Dwyryd estuary with the medium and low risk receptors located near Ynys and Talsarnau respectively, both of which are currently served by coastal defences. With an increase in future sea level the lower-lying residential area at the northern end of Harlech also faces increased flood risk.

MR policy exists along most of the defended lengths of the Dwyryd estuary, most notably the section of the Dwyryd on the seaward side of the mainline railway opposite Talsarnau.

Management Area 28

Figure B10: Outline of Management Area 28 and areas at coastal flood risk



Management Area 28 extends from the east end of the Porthmadog Cob to Graig Ddu and includes the communities of Porthmadog, Tremadog, Morfa Bychan and Borth Y Gest.

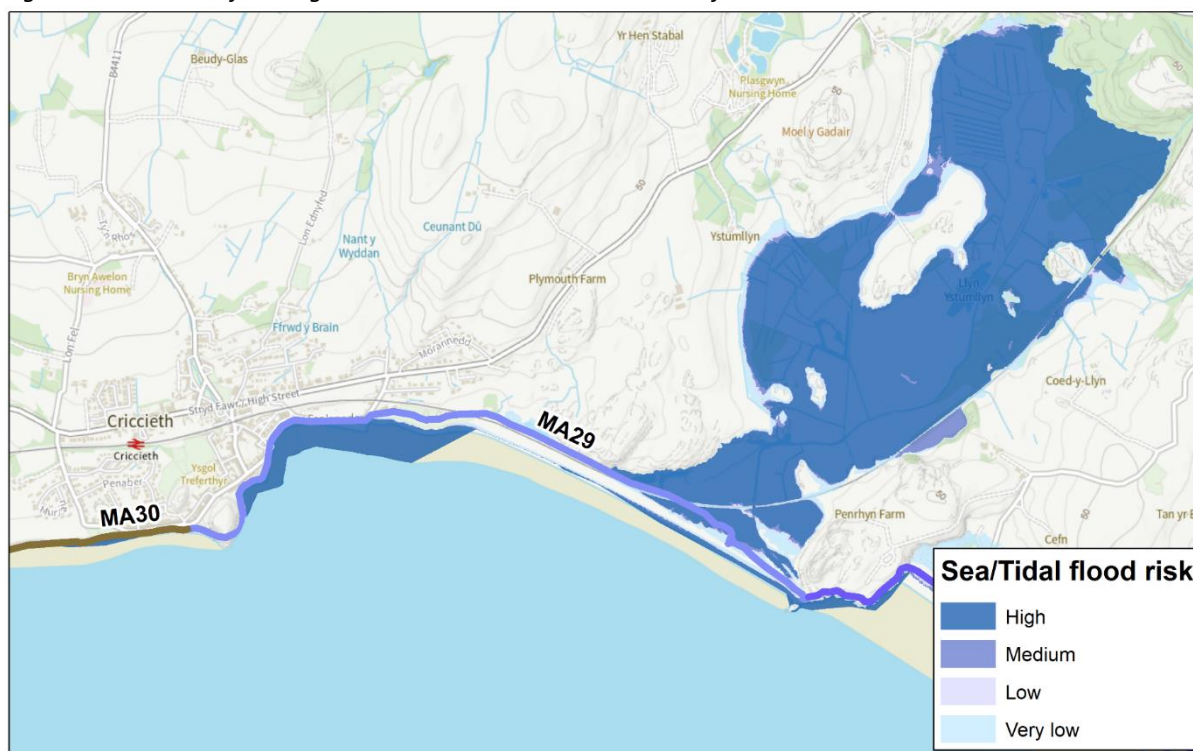
Most of Porthmadog, Tremadog and the large low-lying area to the north of the Cob are defended by two sets of tidal gates at Cob Crwn, and large number of low-risk assets within this MA reflects the level of protection provided by these defences. The areas of higher flood risk are concentrated around Porthmadog Harbour.

An increase in sea level rise puts more properties in the centre of Porthmadog at risk of coastal flooding, along with more properties in the lower-lying areas of Morfa Bychan. Future flood risk at Morfa Bychan could be influenced further by a MR policy along its frontage.

See section 7 of the Local Strategy for details of a coastal risk management scheme recently completed by Cyngor Gwynedd at Borth y Gest.

Management Area 29

Figure B11: Outline of Management Area 29 and areas at coastal flood risk



Management Area 29 extends from Graig Ddu to Criccieth Castle and includes the community of Criccieth (East).

Flood risk is generally low along this MA due to its rural setting although the low-lying agricultural land between Pentrefelin and shoreline is susceptible to coastal inundation, which could be exacerbated in the future due to a MR coastal policy along this frontage.

Coastal flood risk in Criccieth is low but challenges do exist to maintain beach levels in order to protect the sea walls that extend from the esplanade to the harbour.

Management Area 30

Figure B12: Outline of Management Area 30 and areas at coastal flood risk



Management Area 30 extends from Crickieth Castle to Penychain and includes the communities of Crickieth (West) and Afon Wen.

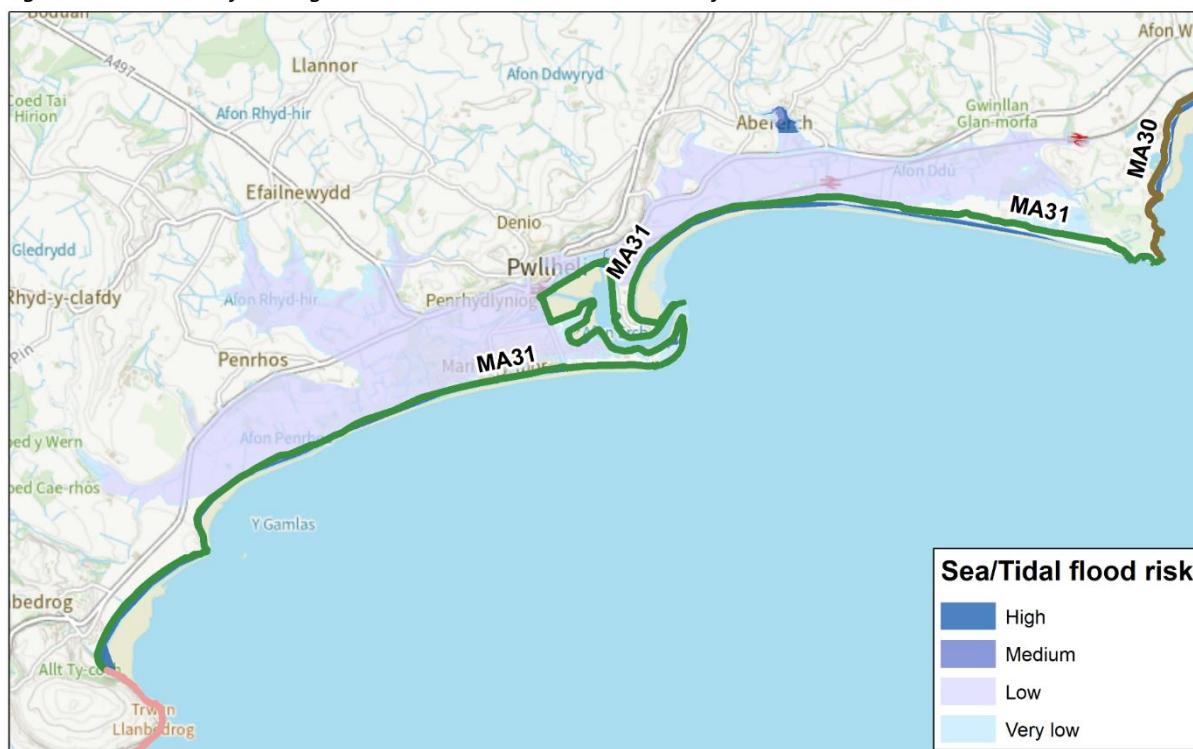
Flood risk to property and essential services is low.

A HTL shoreline policy applies to the defences along the west Crickieth frontage where tall structures at the back of the beach support the highway and properties on its landward side. A recent pattern of lowering beach levels pose a risk to the stability of these structures into the future.

A MR policy exists where the railway embankment fixes the shoreline at Afon Wen, otherwise the general policy for this frontage is NAI.

Management Area 31

Figure B13: Outline of Management Area 31 and areas at coastal flood risk



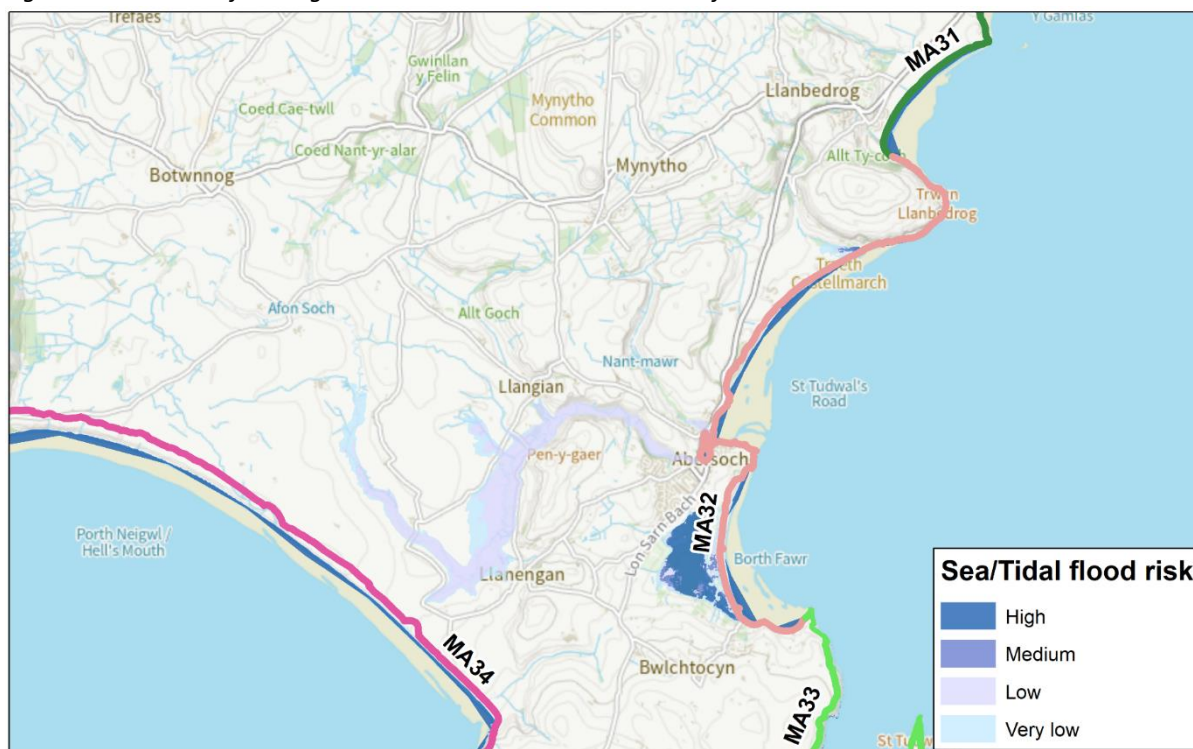
Management Area 31 extends from Penychain to Mynydd Tir-cwmwd and includes the communities of Abererch, Pwllheli, Penrhos and Llanbedrog.

Most of Pwllheli and the low-lying area to the south of Abererch are defended by a variety of coastal flood risk structures including the tidal gates within the harbour and the dune systems either side of Pwllheli, and the large number of low-risk receptors within this MA reflects the level of protection provided by these defences.

An increase in sea level puts more receptors at Pwllheli and Abererch at risk of coastal flooding. Future flood risk in this area is likely to be influenced by long-term MR policies along the Abererch and Traeth Cugan frontages.

Management Area 32

Figure B14: Outline of Management Area 32 and areas at coastal flood risk



Management Area 32 extends from Mynydd Tir-cwmwd to Penrhyn Du and includes the community of Abersoch, Machroes, Llangian and Llanengan.

The areas of high coastal flooding risk are mainly located near the Abersoch harbour and further south at Machroes. Properties are also at present risk in the low-lying areas on the landward side of the harbour, along the defended valley of the Afon Soch and also near the golf club via a flood route from the direction of Machroes. Numbers of receptors at risk in these areas increase with an expected rise in future sea level.

MR policies apply to most of the shoreline within this area, including Abersoch harbour and the defended section of Borth Fawr to the south.

Management Area 33

Figure B15: Outline of Management Area 33 and areas at coastal flood risk

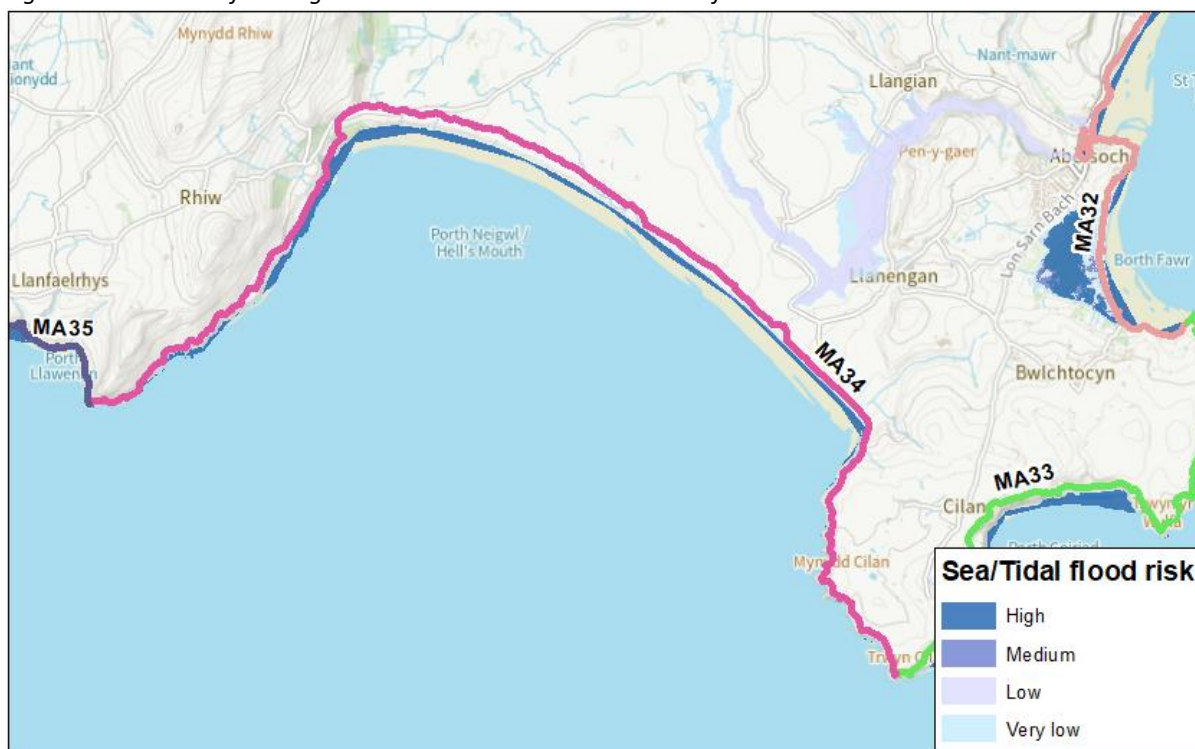


Management Area 33 extends from Penrhyn Du to Trwyn Cilan with Porth Ceiriad at its centre.

Ground level generally rises steeply from the shoreline in this area and therefore flood risk to property and essential services is low. The natural steep rocky cliffs along the frontage means that the general shoreline policy is NAI.

Management Area 34

Figure B16: Outline of Management Area 34 and areas at coastal flood risk

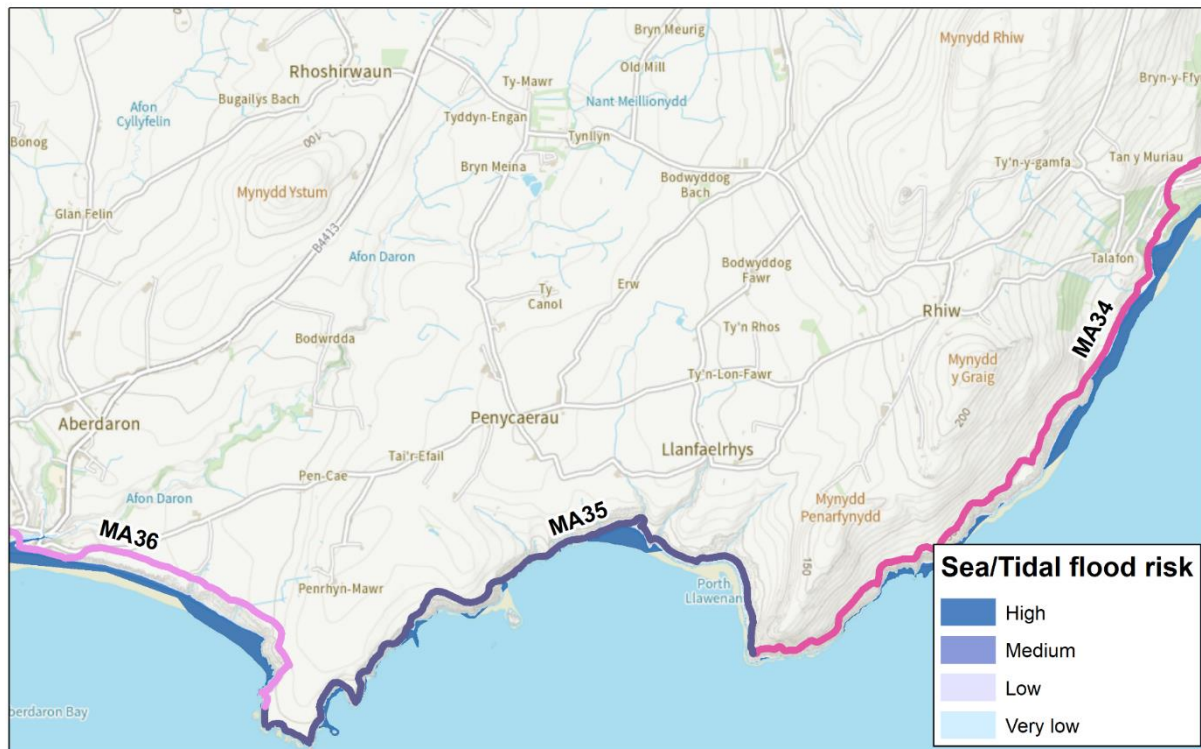


Management Area 34 extends from Trwyn Cilian to Trwyn Talfarach with Porth Neigwl at its centre.

Ground levels generally rise steeply from the shoreline in this area and therefore flood risk to property and essential services is low. The whole frontage is undefended and as a result the general shoreline policy is NAI. There is a pattern of cliff retreat along Porth Neigwl which could put isolated properties as well as the unclassified road towards Plas yn Rhiw at risk from coastal erosion in the future.

Management Area 35

Figure B17: Outline of Management Area 35 and areas at coastal flood risk

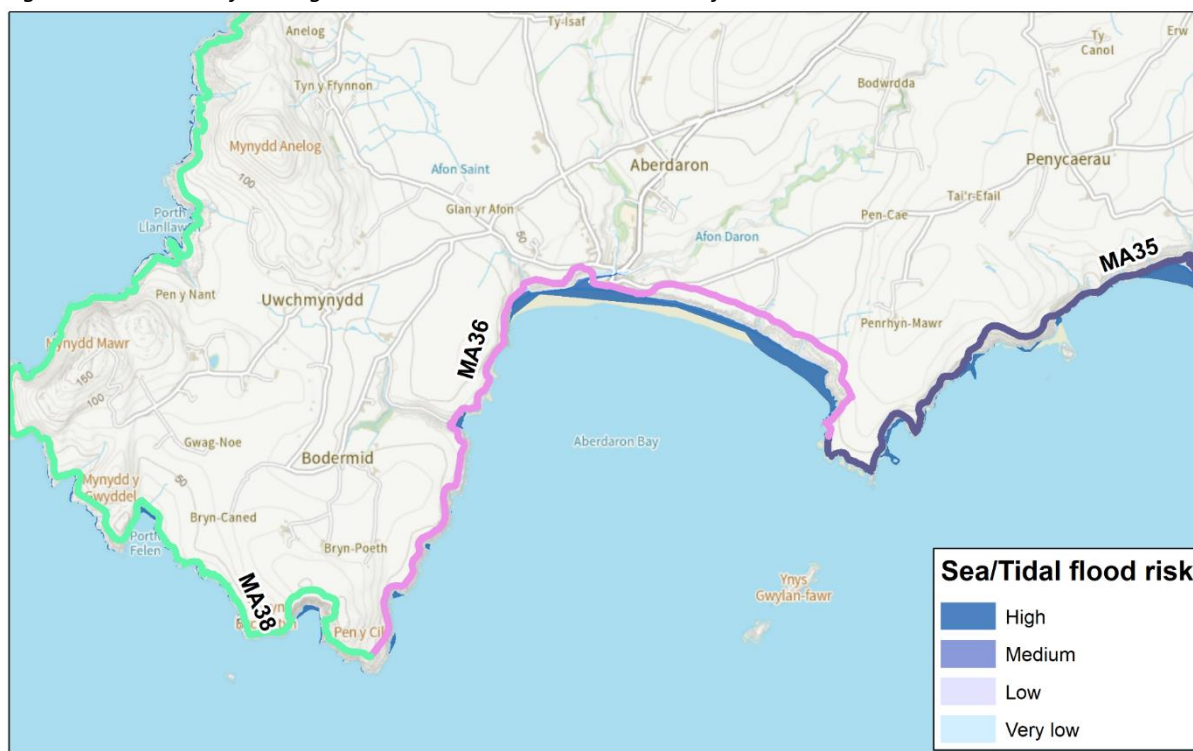


Management Area 35 extends from Trwyn Talfarach to Trwyn Penrhyn which includes the coastal slopes above Porth Llawnenau.

Ground level generally rises steeply from the shoreline in this area and therefore flood risk to property and essential services is low. The natural steep rocky cliffs along the frontage means that the general shoreline policy is NAI.

Management Area 36

Figure B18: Outline of Management Area 36 and areas at coastal flood risk



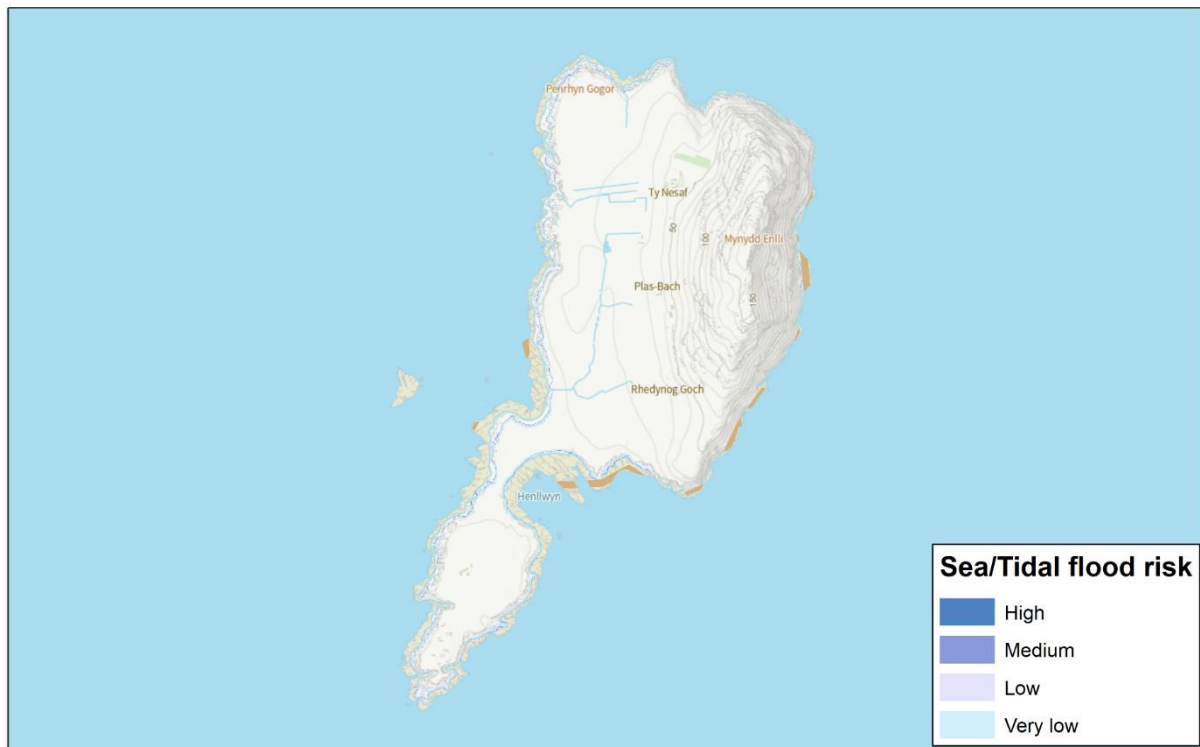
Management Area 36 extends from Trwyn Penrhyn to Pen y Cil and includes the community of Aberdaron.

Flood risk in this area is generally low although some receptors are at low risk within the defended area near the mouth of the Afon Soch, and more receptors in this area will face risk of coastal flooding with an increase in sea level rise in the future.

Risks from coastal erosion exist along the slopes to the east of the village, parts of which are defended at beach level. A MR policy exists across the whole Aberdaron frontage, either side of Aberdaron coastal erosion risks are low and shoreline policy is for NAI.

Management Area 37

Figure B19: Outline of Management Area 37 and areas at coastal flood risk

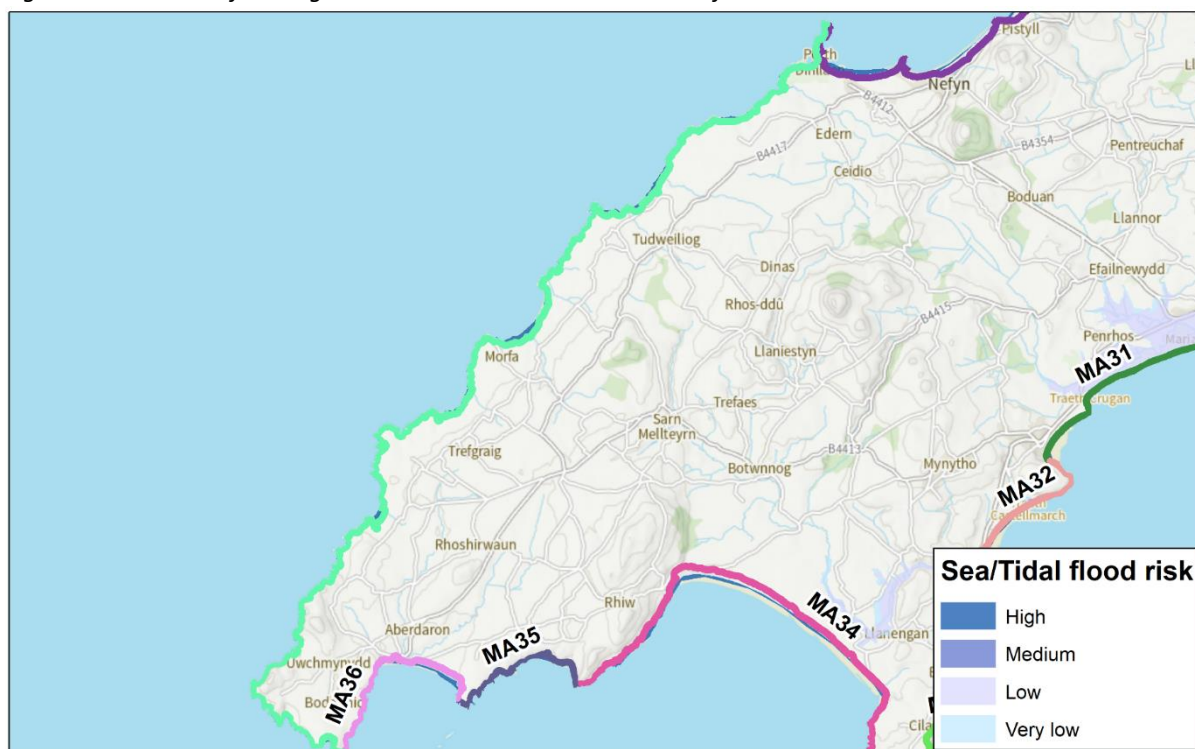


Management Area 32 extends along the Ynys Enlli coastline.

Flood risk to property and essential services at Ynys Enlli is low. The natural rocky cliffs along the frontage means that the general shoreline policy is NAI.

Management Area 38

Figure B20: Outline of Management Area 38 and areas at coastal flood risk

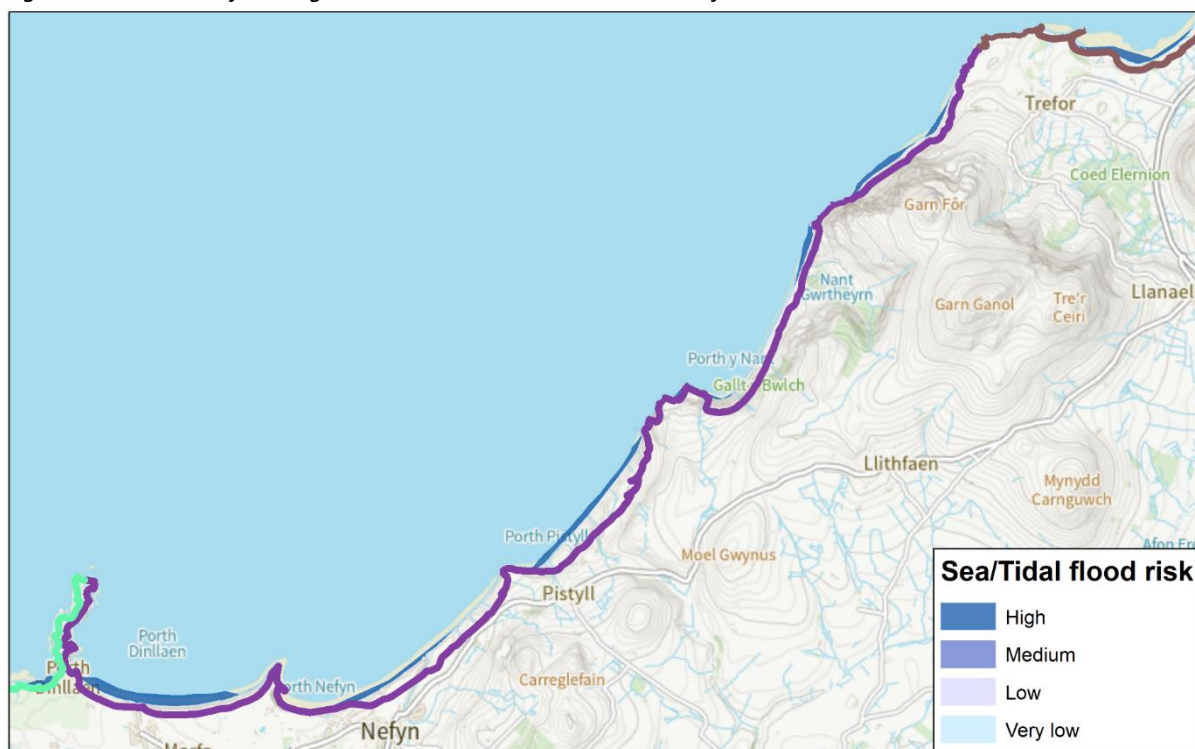


Management Area 38 extends from Pen y Cil to Carreg Du and includes the community of Tudweiliog. Numerous small bays exist along this length of the coastline including Porth Oer and Porth Towyn.

This is a largely rural area and as ground level also rises steeply from the shoreline the flood risk to property and essential services is low. The natural steep rocky cliffs along the frontage means that the general shoreline policy is NAI.

Management Area 39

Figure B21: Outline of Management Area 39 and areas at coastal flood risk



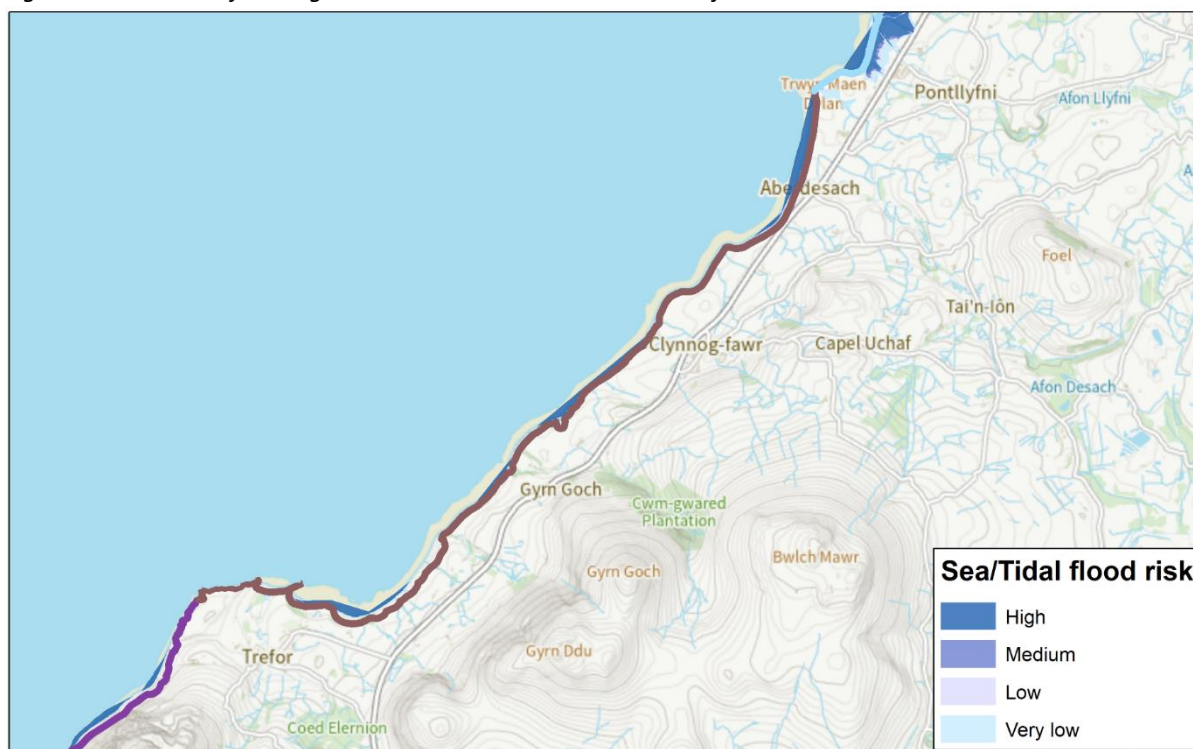
Management Area 39 extends from Carreg Du to Trwyn y Tal and includes the communities of Porthdinllaen, Morfa Nefyn and Nefyn.

The majority of high-risk receptors are located at Porth Dinllaen and the northern end of Morfa Nefyn, while receptors at flood risk also exist at the northern end of Porth Nefyn.

The coastal slopes above Morfa Nefyn and Porth Nefyn are dynamic with a history of coastal slips placing properties above the slopes at risk from coastal erosion. Large areas of these bays are defended by beach level structures although the general long-term policy for all of these defended areas is MR.

Management Area 40

Figure B22: Outline of Management Area 40 and areas at coastal flood risk

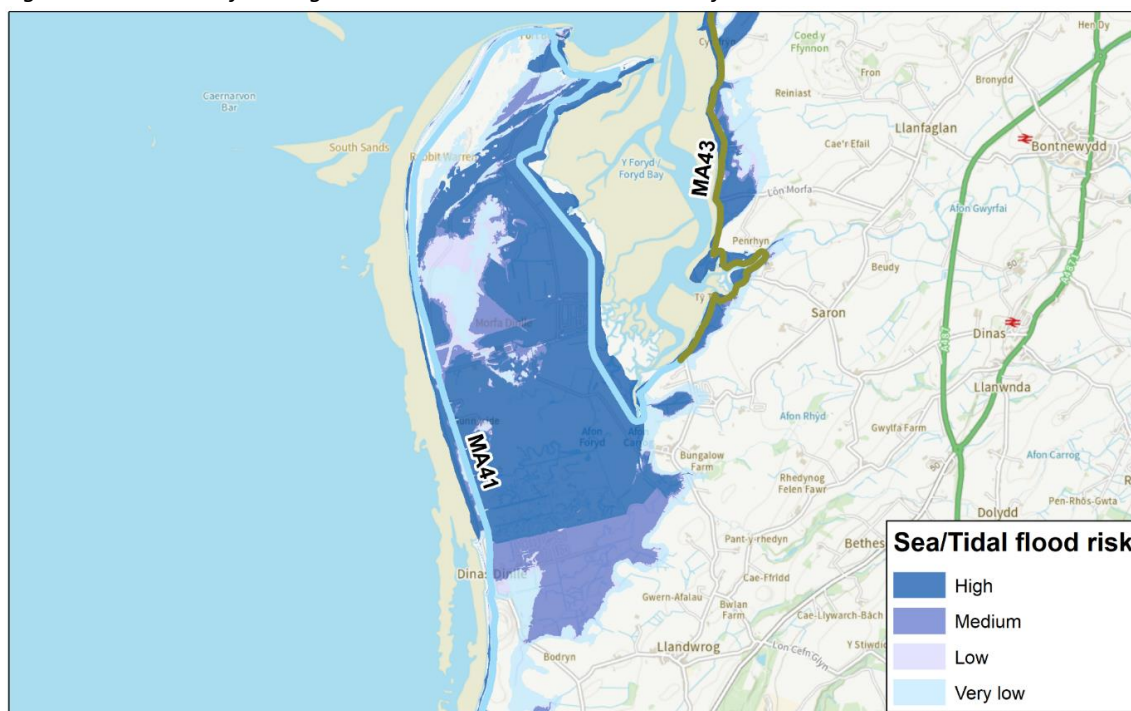


Management Area 40 extends from Trwyn y Tal to Trwyn Maen Dylan and includes the communities of Trefor and Aberdesach.

Coastal flood risk is generally low across the whole frontage with a limited number of properties located near the shoreline. A cluster of properties along the frontage at Aberdesach face risk of flooding with future rise in sea level due to climate change. A risk of coastal erosion also exists for properties near the frontage at Aberdesach due to the retreat of the shingle bank at the back of the beach, with the shoreline policy for the frontage recommended as MR.

Management Area 41

Figure B23: Outline of Management Area 41 and areas at coastal flood risk



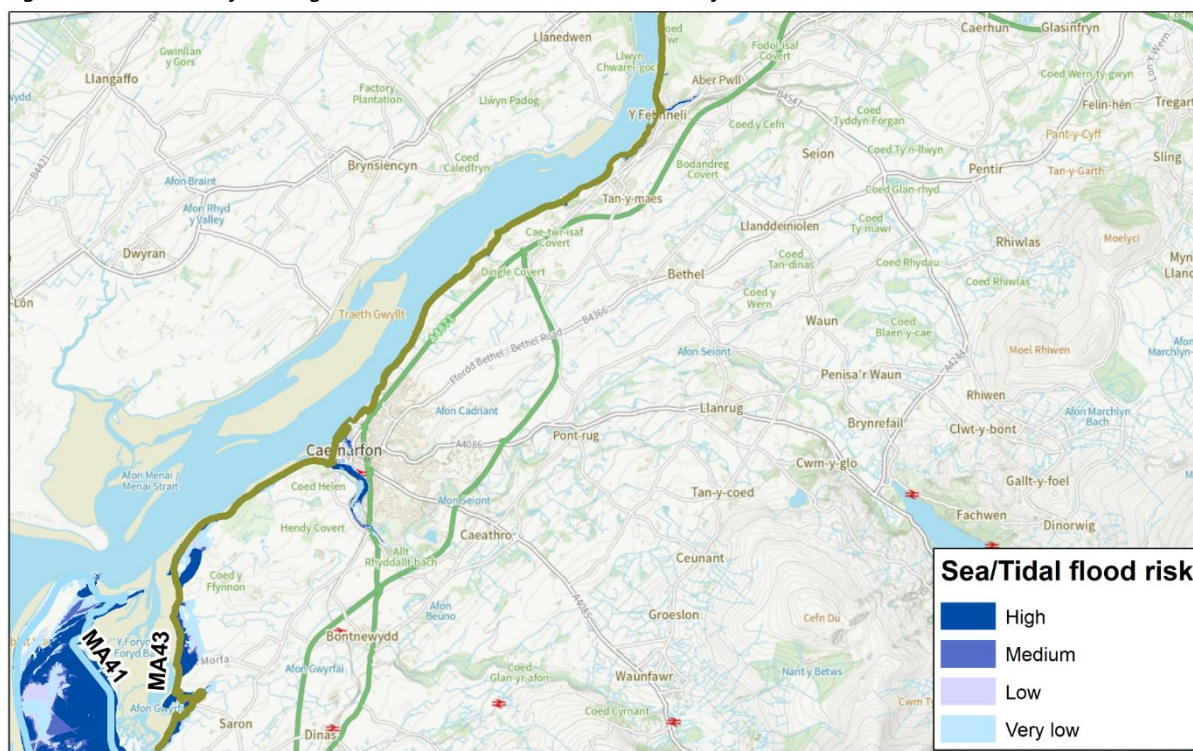
Management Area 41 extends from Trwyn Maen Dylan to Llanddwyn Island (including Foryd and Abermenai) and includes the communities of Pontllyfni and Dinas Dinlle.

The low-lying headland of Morfa Dinlle faces flood risk from the direction of the open coastline and also from Foryd Bay to the west, as a result numerous properties in the area are at present day flood risk. The total number of properties at risk, at Dinas Dinlle in particular, is expected to rise with an increase in tidal extent in the future. Other areas at flood risk within this MA include the low-lying agricultural land either side of the tidal reaches of the Afon Llyfni and Afon Llifon to the south.

Morfa Dinlle is defended from inundation from Foryd Bay by a flood embankment with a similar embankment protecting Dinas Dinlle to the north of the village. An offshore structure stabilizes the level of the beach at Dinas Dinlle thereby providing protection from incoming waves. A MR policy applies to most of the coastline in this area.

Management Area 43

Figure B24: Outline of Management Area 43 and areas at coastal flood risk



Management Area 43 extends from Foryd Bay to the Britannia Bridge and to the Mermaid Inn and includes the communities of Saron, Caernarfon and Y Felinheli.

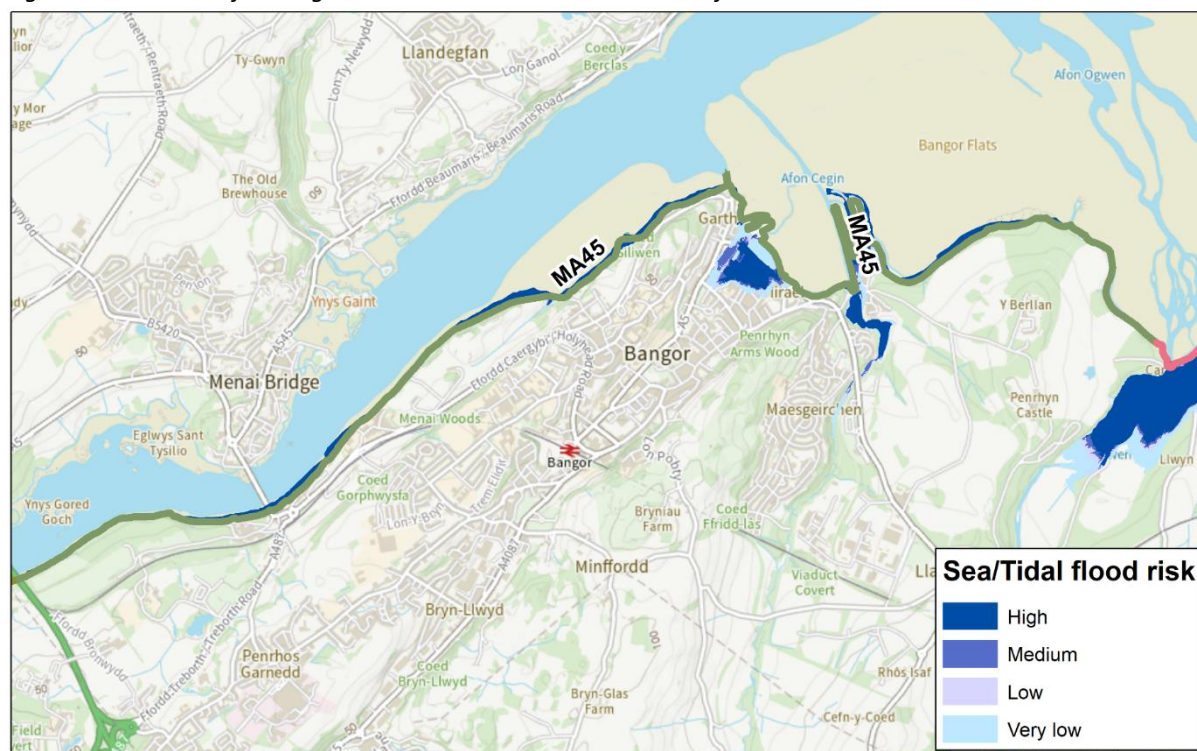
The receptors at flood risk are mainly concentrated along the tidal reach of the Afon Seiont in Caernarfon, near Waterloo Port and also the lower frontage of Felinheli. With an increase in sea level in the future due to climate change more receptors in the area of Dock Victoria and Felinheli harbour are expected to face risk of flooding.

Tidal flood defences now exist along Beach Road in Felinheli in the form of a set-back wall adjacent to the highway (see section 7 of the Local Strategy).

A long-term MR policy applies to the frontage between Caernarfon and Foryd Bay, where the foreshore road is largely supported by a structural embankment at present.

Management Area 45

Figure B25: Outline of Management Area 45 and areas at coastal flood risk



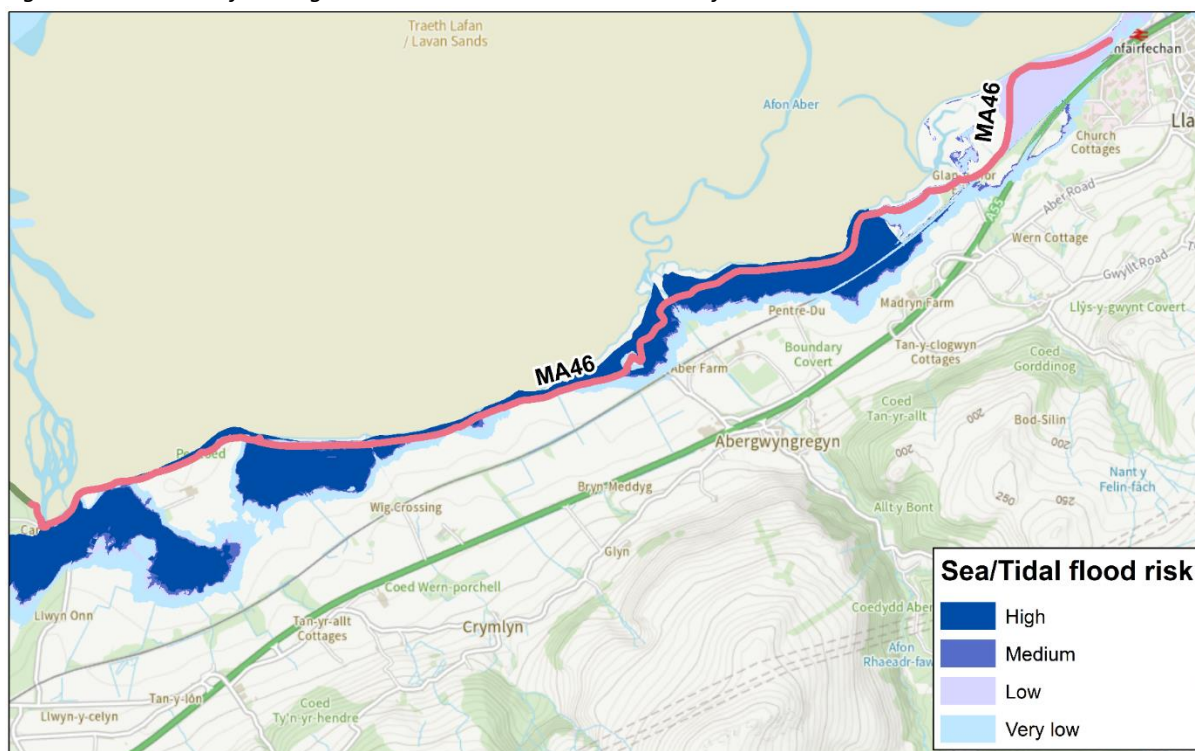
Management Area 45 extends from the Britannia Bridge to Afon Ogwen and includes the community of Bangor.

There is a large number of receptors at risk of flooding within the low-lying residential area on the landward side of Hiracl Bay, the number of receptors at risk in this area is expected to rise with an increase in sea level due to climate change in the future. Some properties near the shore of the Menai Strait between Siliwen Road and Garth Point are also at risk of flooding, otherwise the level of risk within this area is low.

A long-term MR shoreline policy applies to the Hiracl Bay frontage, otherwise the prevalent policy along the shore of the Strait is for NAI.

Management Area 46

Figure B26: Outline of Management Area 46 and areas at coastal flood risk



Management Area 46 extends from Afon Ogwen to Llanfairfechan and includes the communities of Tal y Bont and Abergwyngregyn.

Due to the agricultural nature of the landscape, flood risk is low in this area, but there is a threat to property near Abergwyngregyn due to an expected rise in sea level in the future.

A MR shoreline policy exists near the Afon Aber area, while the policy to the west is NAI.

Management Area	Communities	Number of properties at flood risk ⁶					Number of Essential Services / Non-residential properties at flood risk ⁷	Properties at risk of coastal erosion ⁸	Current FCERM management schemes/studies ⁹
		Total	High risk	Medium risk	Low risk	Very Low risk			
19	Pennal	1	1	0	0	0	1	0 (0)	Arrangements for future adaptation planning for Pennal Valley based on SMP2 managed realignment policy to be discussed and agreed between partner authorities at West of Wales Coastal Group.
20	Bryncrug Tywyn Aberdyfi	500	170	44	53	233	45	138 (138)	<p>Cyngor Gwynedd Location: Tywyn frontage Source: Sea Measure: Monitoring and maintenance of coastal defence structures across the frontage to maintain standard of defence and allow continued access towards the beach Status: Ongoing</p>
									<p>Natural Resources Wales Location: Dysynni Source: Sea Measure: Consider future management options and undertake coastal adaptation planning Status: Ongoing</p>
									Arrangements for future adaptation planning for the Penllyn marshes area based on SMP2 managed realignment policy to be discussed and agreed between partner authorities at West of Wales Coastal Group.
21	Llwyngwrl	0	0	0	0	0	0	0(0)	
22	Fairbourne Arthog Friog	493	1	1	449	42	63	No data available	<p>Natural Resources Wales Location: Fairbourne Source: Sea Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Ongoing</p>
23	Llanelltyd Pen Y Bryn Bontddu Penmaenpool	62	25	5	7	25	14	0(0)	
24	Abermaw	548	12	7	308	221	127	0 (0)	<p>Cyngor Gwynedd Location: Abermaw, Viaduct Gardens Source: Sea Measure: Develop scheme to reduce flood risk on landward side of sea wall, namely Church Street and the area surrounding the Harbour Office Status: Start of construction scheduled for 2024</p>

⁶ See main document section 9.1

⁷ See main document section 9.1

⁸ See main document section 9.1

⁹ NRW Schemes and/or studies are as listed in *FRMP Delivery Plan for North West Wales Place*

									Cyngor Gwynedd Location: Abermaw, North Promenade Source: Sea Measure: Deliver a scheme to improve flood and coastal erosion risk at the northern end of the promenade Status: Ongoing (Full Business Case/Detailed design)
25	Talybont Dyffryn Ardudwy	2	0	1	0	1	7	4 (4)	<i>Arrangements for managements of the frontage area based on SMP2 managed realignment policy to be discussed and agreed between partner authorities at West of Wales Coastal Group.</i>
26	Llanbedr Pen-sarn Llandanwg	41	1	10	2	28	48	5 (5)	<i>Natural Resources Wales</i> <i>Location: Llanbedr</i> <i>Source: Tidal</i> <i>Measure: Undertake initial assessment and feasibility work for reducing flood risk</i> <i>Status: Not started</i>
27	Penrhyndeudraeth Maentwrog Llandecwyn Talsarnau Harlech	516	8	46	93	369	52	2 (2)	<i>Natural Resources Wales</i> <i>Location: Harlech</i> <i>Source: Tidal</i> <i>Measure: Undertake initial assessment and feasibility work for reducing flood risk</i> <i>Status: Not started</i>
									<i>Natural Resources Wales</i> <i>Location: Talsarnau</i> <i>Source: Sea</i> <i>Measure: Consider future management options and undertake coastal adaptation planning</i> <i>Status: Not started</i>
									<i>Natural Resources Wales</i> <i>Location: Llanfihangel - y - Traethau -Ty Gwyn Tidal Door</i> <i>Source: Sea</i> <i>Measure: Design and construction of flood risk asset improvements</i> <i>Status: Not started</i>
28	Porthmadog Morfa Bychan Borth Y Gest	1877	27	7	1358	485	583	51 (51)	<i>Natural Resources Wales</i> <i>Location: Porthmadog</i> <i>Source: River/Sea</i> <i>Measure: Improve existing flood warning service</i> <i>Status: Not started</i>
									<i>Natural Resources Wales</i> <i>Location: Porthmadog</i> <i>Source: River</i> <i>Measure: Develop scheme appraisal for flood alleviation scheme</i> <i>Status: Ongoing</i>
									<i>Arrangements for future management planning for the natural dune defence based on SMP2 managed realignment policy to be discussed and agreed between parted authorities at West of Wales Coastal Group.</i>
29	Criccieth (East)	1	0	0	0	1	0	50 (48)	Cyngor Gwynedd Location: Criccieth Source: Sea

									Measure: Criccieth long term adaptation planning - Develop longer term planning for management of defences within the area looking to potential realignment in the medium term of the shingle banks and the longer-term management of Criccieth sea front Status: Not started
30	Afon Wen Criccieth (West)	1	0	0	0	1	0	78 (78)	Cyngor Gwynedd Location: Criccieth Source: Sea Measure: Develop and implement strategy to manage decline of coastal defences on Criccieth West Beach Status: Ongoing (Strategic Outline Case)
31	Pwllheil Abererch Penrhos Llanbedrog	1498	0	1	1091	406	428	1 (1)	Cyngor Gwynedd Location: Pwllheli Source: Sea Measure: Develop and implement strategy for maintaining flood defence offered by the dunes at the back of Traeth Crugan Status: Ongoing
									<i>Natural Resources Wales</i> Location: Abererch Source: Sea Measure: Develop scheme appraisal for flood alleviation scheme Status: Ongoing
									<i>Natural Resources Wales</i> Location: Pwllheli Source: River/Sea Measure: Develop scheme appraisal for flood alleviation scheme Status: Ongoing
									<i>Natural Resources Wales</i> Location: Pwllheli Source: River/Sea Measure: Update existing hydraulic model Status: Ongoing
32	Abersoch	69	23	8	11	27	44	13 (13)	Cyngor Gwynedd Location: Borth Fawr, Abersoch Source: Sea Measure: Borth Fawr realignment strategy - Develop and discuss potential realignment strategy for the area based on SMP2 policy for managed realignment Status: Not started
									<i>Arrangements for future adaptation planning for the Warren frontage based on SMP2 managed realignment policy to be discussed and agreed between parted authorities at West of Wales Coastal Group.</i>
									<i>Arrangements for future adaptation planning for Abersoch Valley area based on SMP2 managed realignment policy to be discussed and agreed between parted authorities at West of Wales Coastal Group.</i>
33	Llanengan	1	0	0	0	1	0	0 (0)	<i>Arrangements for future adaptation planning at Porth Neigwl based on SMP2 managed realignment policy to be discussed and agreed between parted authorities at West of Wales Coastal Group.</i>

34	Botwnnog	4	0	0	1	3	0	0 (0)	
35	Uwchmynydd	0	0	0	0	0	0	0 (0)	
36	Aberdaron	6	0	0	1	5	11	29 (29)	<p>Cyngor Gwynedd Location: Aberdaron frontage Source: Sea Measure: Develop an integrated plan for management of defence and land use within the area based on SMP2 policy for managed realignment Status: Not started</p> <p><i>Natural Resources Wales</i> Location: Aberdaron Source: River/Sea Measure: Undertake initial assessment and feasibility work for reducing flood risk Status: Not started</p> <p><i>Natural Resources Wales</i> Location: Aberdaron Source: River/Sea Measure: Maintain existing defences and inspection regime Status: Ongoing</p>
37	Ynys Enlli	0	0	0	0	0	0	0 (0)	
38	Tudweiliog	0	0	0	0	0	1	2 (2)	Arrangements for future adaptation planning at Porth Oer based on SMP2 managed realignment policy to be discussed and agreed between parted authorities at West of Wales Coastal Group.
39	Porthdinllaen Nefyn Morfa Nefyn	25	13	4	5	3	13	31 (8)	<p>Cyngor Gwynedd Location: Porth Nefyn Source: Sea Measure: Develop a plan for monitoring, management and communication of risks associated with cliff instability in the area Status: Not started</p>
40	Aberdesach Trefor	6	0	0	0	6	1	15 (11)	<p>Cyngor Gwynedd Location: Trefor Source: Sea Measure: Develop a local action plan for adaptation and management of existing structures Status: Not started</p> <p>Cyngor Gwynedd Location: Aberdesach Source: Sea Measure: Develop and discuss potential need for adaptation of management of the frontage based on SMP2 policy for managed realignment Status: Not started</p>

41	Dinas Dinlle Pontllyfni	72	8	34	5	25	49	0 (0)	<i>Natural Resources Wales</i> <i>Location: Dinas Dinlle</i> <i>Source: Sea</i> <i>Measure: Consider future management options and undertake coastal adaptation planning</i> <i>Status: Ongoing</i>
									<i>Natural Resources Wales</i> <i>Location: Pontllyfni</i> <i>Source: Sea</i> <i>Measure: Consider future management options and undertake coastal adaptation planning</i> <i>Status: Not started</i>
43	Caernarfon Y Felinheli Saron Llanfaglan	305	26	42	68	169	226	89 (89)	Cyngor Gwynedd Location: Ffordd yr Aber, Caernarfon Source: Sea Measure: Develop a plan for management and maintenance for the area based on SMP2 policy for managed realignment Status: Not started
45	Bangor Treborrh	313	199	24	17	73	44	9(9)	Cyngor Gwynedd Location: Hiracl Bay Source: Sea Measure: FCERM scheme to reduce risk of coastal flooding to the low-lying area of Hiracl Bay and address ongoing coastal erosion concerns at the frontage. Status: Construction ongoing
46	Tal Y Bont Abergwyngregyn	2	0	0	0	2	0	0 (0)	<i>Natural Resources Wales</i> <i>Location: Abergwyngregyn</i> <i>Source: Sea</i> <i>Measure: Build hydraulic model</i> <i>Status: Ongoing</i>



Cyngor Gwynedd

Local Flood Risk Management Strategy - Summary

DRAFT



-
1. Introduction
 2. How this strategy responds to climate change
 3. Sources of flooding and key points of contact
 4. How we manage flooding in our area
 5. How we assess flood and coastal erosion risk
 6. Overview of flood risk in Gwynedd
 7. Our strategic Objectives
 8. Strategic Actions
 9. Funding
 10. FCERM Works Programmes
 11. Monitoring progress
 12. Environmental assessments

DRAFT

1. Introduction

The *Flood and Water Management Act 2010*¹ requires all 22 Lead Local Flood Authorities (LLFAs) in Wales to produce a Local Flood Risk Management Strategies (Local Strategy).

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) as well as coast erosion.

In this document we identify the present day and future risks associated with flooding and coastal erosion. Our aim is to make the reader aware of all sources of flooding within their community, rather than focus only on the sources for which Cyngor Gwynedd act as RMA.

We also explain how these risks will be managed across our Local Authority area, consistent with the objectives, measures and related policies and legislation set out in the National Strategy.

This document considers inland and coastal risks separately, this is because there is often little correlation between the nature of the risks and the ability to mitigate them. Furthermore, in order to segregate the risk across Gwynedd and help identify the areas of most concern we shall discuss inland flood risk by main hydrological catchments, of which there are 15 in total. Coastal risks are assessed and discussed according to specific lengths of the coastline termed as Management Areas (see section xxx).

This Local Strategy published on XXX will be reviewed in X years.

2. How this strategy responds to climate change

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.

In March 2019 Cyngor Gwynedd declared its own climate emergency and vowed to take definitive steps to reduce carbon emissions and to work towards a carbon-free future. Subsequently the Council have published a *Climate and Nature Emergency Plan*², which outlines the steps that we will take between 2022 and 2030 to reach our ambition of being a net zero council.

¹ <https://www.legislation.gov.uk/ukpga/2010/29/contents>

² <https://www.gwynedd.llyw.cymru/en/Residents/Climate-and-Nature.aspx>

The level of flood risk to property across Gwynedd is expected to rise significantly in the future due to the effects of climate change, with an increase in frequency and depth of flooding to coastal and low-lying areas. Within Gwynedd we anticipate that an additional 2127 residential properties will be at risk of coastal flooding over the next 100 years (up 50% from 4228 at present day), and additional 1826 residential properties face risk of fluvial or surface water flooding over this time period (up 35% from 5258 at present day). This in addition to an increase in the level of flood risk for properties currently located within flood zones.




This Local Strategy has been developed to continually assess and manage flood and coastal erosion risks across Gwynedd into the future and will address the increase in risks due to the effects of climate change as part of this process. Key steps are taken to embed future climate change effects into the objectives and actions of this Local Strategy.



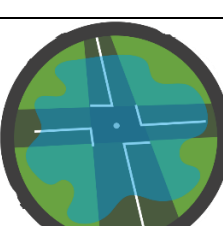
3. Sources of flooding and key points of contact

The term 'flood and coastal erosion risk' covers all flooding from rivers, the sea, reservoirs, ordinary watercourses, groundwater and surface water, as well as coastal erosion. Figure 1 below summarises the different types of risks and the key points of contact in each case.

Cyngor Gwynedd are committed to working in partnership with RMAs, other stakeholders and local communities to achieve the flood risk objectives and actions in this Local Strategy.

Figure 1: Types of risks & who you should contact

	<p>River flooding (fluvial) tends to follow sustained rainfall resulting in high river levels and river banks being breached, or defences overtopped. It can also be caused by blockages where the river or stream flows within or beneath a structure such as a bridge or culvert.</p> <p>Contact CG as LLFA for flooding associated with Ordinary Watercourses</p> <p>Contact NRW for flooding associated with Main Rivers</p>
	<p>Surface water flooding (pluvial) happens when rainfall saturates the ground and drainage systems and excess water cannot drain away. Whilst more common in urban areas, it also affects rural communities, hitting transport, agriculture and the local economy. It can occur at any time of year: whilst winter sees more rain coming from Atlantic weather systems, the summer months bring an increased risk of flash flooding.</p> <p>Contact CG as LLFA</p>
	<p>Coastal flooding usually occurs when high tides combine with severe weather resulting in coastal or estuarine communities being flooded. A combination of significantly high tides, high on-shore winds and low atmospheric pressure can result in increase in tide level known as storm surge.</p> <p>Contact NRW</p>

	<p>Coastal erosion is defined as the wearing away of land by wave action, tidal currents, wave currents, drainage, weathering or high winds.</p> <p>Contact CG or NRW as Coastal Protection Authorities</p>
	<p>Sewer flooding is often caused by excess surface water entering the drainage network and exceeding the capacity of the sewer or failure of a sewer due to collapse or debris build up. During sewer flooding both foul and surface water can occur.</p> <p>Contact DCWW as the Water and Sewerage Undertaker</p>
	<p>Flooding from Roads occurs when the volume of rainwater does not drain away through existing drainage systems.</p> <p>Contact the North and Mid Wales Trunk Road Agency for flooding from trunk roads.</p> <p>Contact CG as the Highway Authority for flooding from other roads</p>

Cyngor Gwynedd as LLFA are responsible for managing flood risk from surface water and ground water, or from ordinary watercourses. LLFAs have the following duties under the *Flood and Water Management Act 2010*:

- Prepare and maintain a Local Flood Risk Management Strategy for their areas, coordinating views and activity with other local bodies and communities through public consultation and scrutiny, and delivery planning. They must consult RMAs and the public about their strategy;
- Investigate significant local flooding incidents and publish the results of such investigations;
- Maintain a register of structures and features likely to affect flood risk
- Co-operate with other RMAs.
- Under Schedule 3 to the 2010 Act, Cyngor Gwynedd as the SuDS Approving Body³ (the SAB) have a duty to approve SuDS (Sustainable Drainage Systems) which follow the national statutory standards. With the exception of single-curtilage sites, the SAB also has a duty to adopt such systems.

Cyngor Gwynedd as LLFA has powers under the *Land Drainage Act 1991*⁴, which allow them to:

- Manage flood risk from ordinary watercourses.
- Manage flood risk from surface water or groundwater.
- Monitor, maintain, operate or repair works to manage flood risk from sea.
- All such works must be in accordance with this Local Flood Risk Management Strategy.

Coastal Local Authorities such as Cyngor Gwynedd are also designated as a Coastal Erosion RMA under the *Coast Protection Act 1949*, which gives them powers to protect the land

³ <https://www.gwynedd.llyw.cymru/en/Residents/Planning-and-building-control/Planning/Sustainable-Drainage-Systems.aspx>

⁴ <https://www.legislation.gov.uk/ukpga/1991/59/contents>

against erosion or encroachment by the sea. Cyngor Gwynedd are responsible for maintaining a total of 229 coastal erosion assets across 21km of the coastline, many of which are historic structure situated along our promenades and harbours, and some of which also provide a level of protection from coastal flooding.

Cyngor Gwynedd have other important responsibilities relating to flood risk management:

- Cyngor Gwynedd are responsible for drainage of local highways under the *Highways Act, s100*⁵, whilst the Welsh Government has a responsibility for trunk road drainage.
- Under the *Civil Contingencies Act 2004*⁶, Cyngor Gwynedd are Category 1 responders giving them duties to:
 - maintain arrangements to warn the public, and to provide information and advice to the public, if an emergency is likely to occur or has occurred
 - play a lead role in emergency planning and recovery after a flood event and must have plans to respond to emergencies,
- Cyngor Gwynedd (along with Snowdonia National Park Authority) act as local planning authority and in doing so must have regard to potential risks associated with flooding and coastal erosion when developing local policies and determining applications for development. Specialist advice is provided by NRW and the Water and Environment Unit within YGC.

4. How we manage flooding in our area

Cyngor Gwynedd manage the risk of flooding within its communities through a range of different methods, these are described in Table 2 below under the headings of Maintain, Plan, Respond, Regulate, Monitor and Inform.

Table 2: Methods adopted by Cyngor Gwynedd to manage risk of flooding and coastal erosion

Maintain
Cyngor Gwynedd are responsible for a variety of flood and coastal erosion risk management (FCERM) structures such as flood walls and overflow systems on rivers, and coastal walls and groyne fields.
The condition of the Council's FCERM assets is assessed on a regular basis using industry standard techniques, for assurance that they remain in adequate condition to provide the desired standard of defence, and to identify any defects which could compromise integrity in the future. Routine inspections are supplemented by post-storm condition inspections.
Responsibility for all bridges and culverts on the local highway network which are inspected on a regular basis to ensure that they remain functional and do not pose a flood risk. The Council also maintain all highway gully's and drains on a cyclic programme and will undertake repairs or improvements as and when condition dictates in accordance with the Council's Highway Maintenance manual ⁷ .
Plan
Cyngor Gwynedd deliver FCERM improvement schemes to minimise the risk of local flooding or coastal erosion to our most vulnerable communities. Capital support for schemes of this kind is offered through the Welsh Government's FCERM Programme).

⁵ <https://www.legislation.gov.uk/ukpga/1980/66/data.pdf>

⁶ <https://www.legislation.gov.uk/ukpga/2004/36/contents>

⁷ Angan ref i Highways Maintenance Manual

By acknowledging that not all households can be protected from flooding through capital improvement schemes the Council also offer advice to concerned residents on measures that can be taken to reduce flood risk to their properties.

Respond

During a flood event Cyngor Gwynedd will take all reasonable measures to ensure that their network of county roads remain passable for vehicles.

During severe rainfall events the Council will make every effort to distribute sandbags to residents that are at serious risk of flooding, although **residents are strongly advised to source their own flood risk management equipment when a known flood risk exists** as the ability of the Council to share sandbags could be severely compromised during periods of adverse weather when the priority is to keep the highway network open for emergency services.

Under the guidance of the North Wales Resilience Forum, and the measures included in the Multi-Agency Flood Plan, the Council will take appropriate action to support the emergency services and those engaged in emergency response.

On becoming aware that a property has experienced internal flooding following severe rainfall or tidal events Cyngor Gwynedd undertake investigations to determine source and cause of flooding.

Regulate

Cyngor Gwynedd (along with Snowdonia National Park Authority) act as local planning authority and in doing so must have regard to potential risks associated with flooding and coastal erosion when developing local policies and determining applications for development.

Cyngor Gwynedd as the SAB have a duty to approve SuDS (Sustainable Drainage Systems) which follow the national statutory standards.

Under section 23 of the Land Drainage Act Cyngor Gwynedd are responsible for authorising consent to individuals, developers or authorities who wish to carry out changes to an ordinary watercourse that may affect flow or flood risk.

Where Cyngor Gwynedd have been made aware of a potential blockage or obstruction to an ordinary watercourse we will work with all parties involved to help resolve the problem before considering the use of permissive enforcement powers afforded under the Land Drainage Act.

Monitor

Cyngor Gwynedd monitor beach levels at critical locations along the coastline as part of the national programme to identify any fluctuations in beach levels that may pose immediate risks to coastal assets and subsequently our communities.

5. How we assess flood and coastal erosion risk

Our flood risk assessment provides information regarding the number of residential properties, non-residential properties and essential services considered to be at risk from flooding in Gwynedd. Not all properties or receptors identified as being at risk will have experienced flooding in the past, however they are located within a specific band of flood risk according to the national-scale flood modelling exercises described below.

As discuss above flooding can occur from several sources and different authorities are assigned as RMA according to the source of the risk. For the purpose of this Local Strategy, we highlight the risk of flooding from all natural sources (i.e. excluding sewer, reservoir) regardless of leading RMA. Some receptors may well be susceptible to flooding from more than one source, but this can complicate explanations and data presentation, so flood risk sources have been divided into two broad categories:

- inland (watercourses and surface water)
- coastal

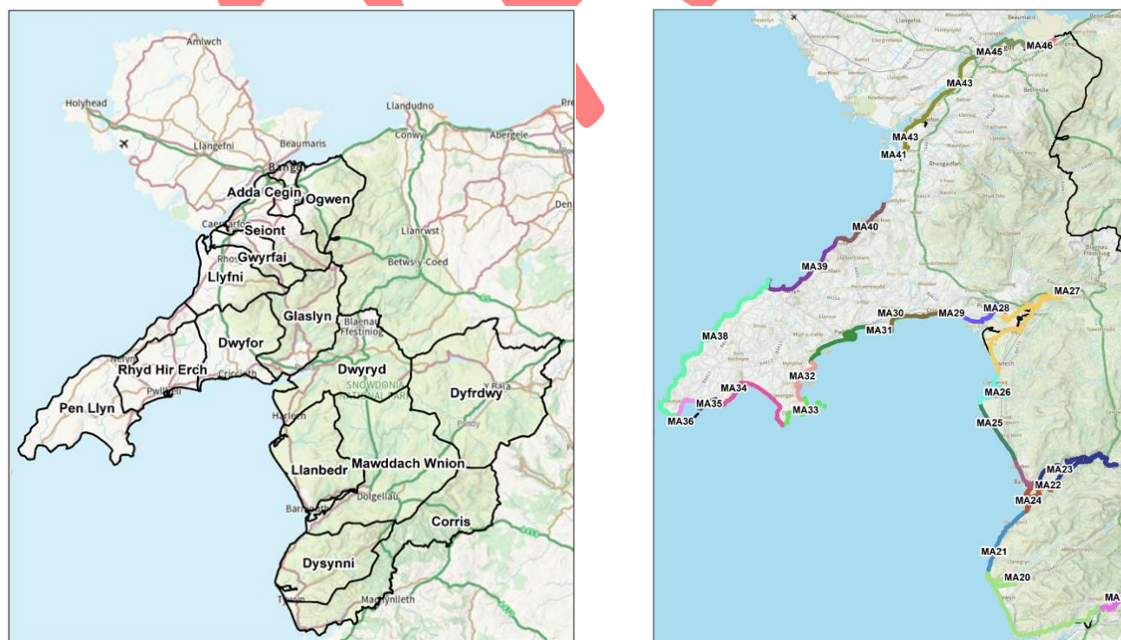
To identify areas and receptors at risk of flooding we have used information obtained from the national flood maps developed by NRW. The level of flood risk to any area, and subsequently to any receptor, is described as the likelihood or 'chance' of flooding in any year as displayed in table 3 below.

Table 3: Flood risk categories used in our assessment

Level of flood risk	Likelihood of flooding
High	This area has a chance of flooding greater than 1 in 30 in any given year (annual probability of flooding 3.3%)
Medium	This area has a chance of flooding between 1 in 100 (1%) and 1 in 30 (3.3%) in any given year
Low	This area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%) in any given year
Climate Change	Expected to be at risk of flooding due to climate change effects (mainly sea level rise)

To segregate the risk across Gwynedd and help identify the areas of most concern we discuss inland flood risk by main hydrological catchments, of which there are 15 in total. Coastal risk is described according to coastal Management Areas that have been defined within the Shoreline Management Plan (SMP2).

Figure 1: Hydrological catchments and coastal Management Areas within Gwynedd



6. Overview of flood risk in Gwynedd

Table 4 summarises the number of residential properties within various inland flood risk zones across Gwynedd.

Table 4: Summary of properties at risk of inland flooding across Gwynedd

Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk
Total	High risk	Medium risk	Low risk	Very Low risk	
7084	1048	721	3489	1826	2023

Inland flood risk is generally spread across the whole of Gwynedd, except for the most mountainous and rural areas. As expected, the largest concentrations of flood risk receptors are located within the most populated areas, with obvious hotspots occurring at Caernarfon, Llanberis, Bethesda, Blaenau Ffestiniog and Y Bala; and in most of these cases the risk is linked to large watercourses flowing through or nearby populated areas. In general, areas where a high number of properties are at risk from a single source are afforded protection in the form of flood defences (e.g. Bala, Porthmadog, Pwllheli), however this is less often the case where source of flooding is more sporadic.

Table 4 suggests that the effects of climate change could be prominent in the future with an increase of 35% in the number of properties at risk from inland flooding; this in addition to an increase in the level of flood risk for present day receptors.

Table 5 summarises the number of properties within various coastal flood risk zones across Gwynedd.

Table 5: Summary of properties at risk of coastal flooding and erosion across Gwynedd

Number of properties at flood risk					Number of Essential Services / Non-residential properties at flood risk	Properties at risk of coastal erosion
Total	High risk	Medium risk	Low risk	Very Low risk		
6355	520	237	3471	2127	1864	508

The areas of highest coastal flood risk are centred around highly populated lowland locations, where large rivers such as the Dysynni, Mawddach, Dwyrdd, Glaslyn, Rhyd-Hîr and the Erch enter Cardigan Bay. There are also areas of increased flood risk in the populated centres along the southern edge of the Menai Strait, including Caernarfon, Y Felinheli and Bangor. Most of the areas at risk of coastal flooding are defended from inundation, however the standard of protection afforded by defences will vary between different areas, and defences in general are not adequate to withstand increase in sea level expected because of climate change. Furthermore, future shoreline policies outlined in SMP2 may dictate that certain defences are

gradually abandoned or moved in-land, which would change the flood risk profile of coastal areas over time as a result.

Table 5 suggests strongly that unmitigated effects of future sea level rise could be significant for coastal areas, with an increase of 50% in the number of properties expected to be at risk of flooding; as per the inland scenario this figure is in addition to the increase in flood risk level expected for present day receptors. The number of properties estimated to be at risk from coastal erosion is also contained in Table 5.

7. Our strategic Objectives

The Welsh Government National Strategy provides the framework for flood and coastal erosion risk management in Wales. The framework is centred around five key objectives and the measures to achieve those objectives. The aim of the National Strategy is to ‘reduce the risk to people and communities from flooding and coastal erosion’. The aim is supported by five objectives that complement and overlap each other with the intention of reducing the risk to life. These are summarised in

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. Our objectives are listed in Table 6 and have been selected to address our greatest areas of priority whilst considering the Council’s remit for managing risks associated with local flooding and coastal erosion. All objectives are supported by a range of actions, listed and described in section 8.

Table 6: The strategic objectives of our Local Strategy

Local Strategy Objectives	Link to National Strategy Objectives
Objective 1: To aim to reduce the level of flood and coastal erosion risk to the residents of Gwynedd	C, D
Objective 2: To further develop an understanding of the flood risk to Gwynedd and the impacts of climate change	A
Objective 3: To continue to work with all relevant bodies to ensure appropriate and sustainable development in Gwynedd	B, D
Objective 4: Raising awareness of local flood and coastal erosion risk	A
Objective 5: Working collaboratively with all other RMAs and relevant groups/bodies to ensure a coordinated response to flood and coastal erosion events	E

8. Strategic Actions

Cyngor Gwynedd's objectives for managing flood and coastal erosion risk to our communities are listed above, each objective is supported by the range of actions described below. These actions supplement the methods currently employed by the Council to manage flood and coastal erosion risks, as described in section 4.

Objective 1: <i>To aim to reduce the level of flood and coastal erosion risk to the residents of Gwynedd</i>	
1.1	<i>Flood and coastal erosion risk management programmes</i>
Action 1.1A	<i>Maintain long term capital programme to reduce risk of inland flooding</i>
Action 1.1B	<i>Maintain long term capital programme to reduce risk of coastal flooding/erosion, incorporating actions identified within SMP2</i>
1.2	<i>Flood and coastal erosion risk management improvements</i>
Action 1.2A	<i>Prepare annual list of schemes from long term action plan to reduce risk of flooding and coastal erosion to be presented for inclusion on WG capital programme</i>
1.3	<i>Management of flood/coastal erosion risk management assets</i>
Action 1.3A	<i>Develop register and map of highway drainage assets in flood prone areas</i>
Action 1.3B	<i>Develop register and map of all SuDS elements adopted by the Council</i>
1.4	<i>Maintenance and deployment of flood/coastal erosion risk management assets</i>
Action 1.4A	<i>Prepare and deliver minor works programme (revenue) based on findings of asset condition assessment to maintain standard of protection afforded by flood risk/coastal erosion assets</i>

Objective 2: <i>To further develop an understanding of the flood risk to Gwynedd and the impacts of climate change</i>	
2.1	<i>Working with partner RMAs</i>
Action 2.1A	<i>Contribute to stakeholder events with colleagues from partner RMAs and other stakeholders i.e. North Wales Regional Flood Group, West of Wales Coastal Group</i>
Action 2.1B	<i>Hold regular discussions regarding flood risk issues within Gwynedd with colleagues from NRW and DCWW</i>
2.2	<i>Flood investigations</i>
Action 2.2A	<i>Develop and improve current mechanisms to identify incidents of flooding within Gwynedd as early as possible</i>
2.3	<i>Flooding to highway network</i>
Action 2.3A	<i>Initiate study to identify areas of the county highway network that are most vulnerable to flooding and will become more susceptible as a results of climate change effects in the future</i>
2.4	<i>Flood Modelling</i>

Action 2.4A	Development of high quality hydrological and hydraulic modelling to build on national maps and better understand flood risk at local level
Action 2.4B	Incorporate most up-to-date climate change projections into all flood modelling exercises
Action 2.4C	Sharing of local flood modelling information with NRW so that national maps can be updated as appropriate
2.5	Data Collection
Action 2.5A	Enhancing our network of LoraWAN sensors to measure water levels within watercourses as well as groundwater level in areas of particular interest
Action 2.5B	Develop and implement a monitoring programme for areas of the coastline where cliff instability poses a risk to people, property and infrastructure.

Objective 3: To continue to work with all relevant bodies to ensure appropriate and sustainable development in Gwynedd	
3.1	Development Planning/Development Control
Action 3.1A	Incorporation within the Local Development Plan of the requirements contained within TAN15 with regard to Strategic Flood Consequence Assessment
Action 3.1B	Regard within the Local Development Plan of recommendations for future changes in coastal policy, and subsequent implications for land use near the coastline
3.2	Works near watercourses
Action 3.2A	Review of all policies relating to Land Drainage consenting procedures to ensure best practice is maintained and proposed developers are aware of design and construction requirements
3.3	Sustainable Drainage Systems (SuDS) and Natural Flood Risk Management (NFM)
Action 3.3A	Identify opportunities for the implementation of SuDS and NFM schemes in areas which will deliver meaningful flood risk benefits as well as other environmental and amenity benefits
Action 3.3B	Work with partner authorities and landowners to deliver NFM schemes as part of a national programme
Action 3.3C	Develop position statement which clearly outlines how NFM schemes should be designed and developed to obtain necessary watercourse consents (S23 and LD bylaws) from Cyngor Gwynedd

Objective 4: Raising awareness of local flood and coastal erosion risk	
4.1	Raising awareness of local flood risk
Action 4.1A	Cyngor Gwynedd will raise awareness of flood risk to its residents
Action 4.1B	Cyngor Gwynedd will advise on and promote flood resilience and resistance measures amongst its residents

Action 4.1C	<i>Cyngor Gwynedd will prepare and publish an information pamphlet available to all residents within flood risk areas, and any residents that have experienced flooding to their properties</i>
4.2	<i>Raising awareness of coastal erosion risk</i>
Action 4.2A	<i>Cyngor Gwynedd will raise awareness of coastal erosion risk to its residents, focusing on the most at risk areas</i>

Objective 5: <i>Working collaboratively with all other RMAs and relevant groups/bodies to ensure a coordinated response to flood and coastal erosion events</i>	
5.1	<i>Preparation and testing of Emergency Plans</i>
Action 5.1A	<i>Cyngor Gwynedd will review and update its flood emergency plans alongside North Wales Councils Regional Planning Service; to include evacuation and rest centre plans.</i>

9. Funding and Prioritisation

Measures to manage flood and coastal erosion risk are funded from a range of sources with most of the funding available through the Welsh Government's capital and revenue programmes. The Welsh Government runs a variety of capital works programmes which are aimed at different types and scales of FCERM schemes. Cyngor Gwynedd will also make funds available for capital works where match-funding is a pre-requisite for Welsh Government grant, and also makes annual contribution towards revenue funding which supplements the grant received from the Welsh Government.

Section 10 below explains how Cyngor Gwynedd will develop works programmes (inland and coastal) to benefit from the funding sources described above, with all schemes and/or studies reviewed and prioritised by the Welsh Government before funding programmes are announced each year.

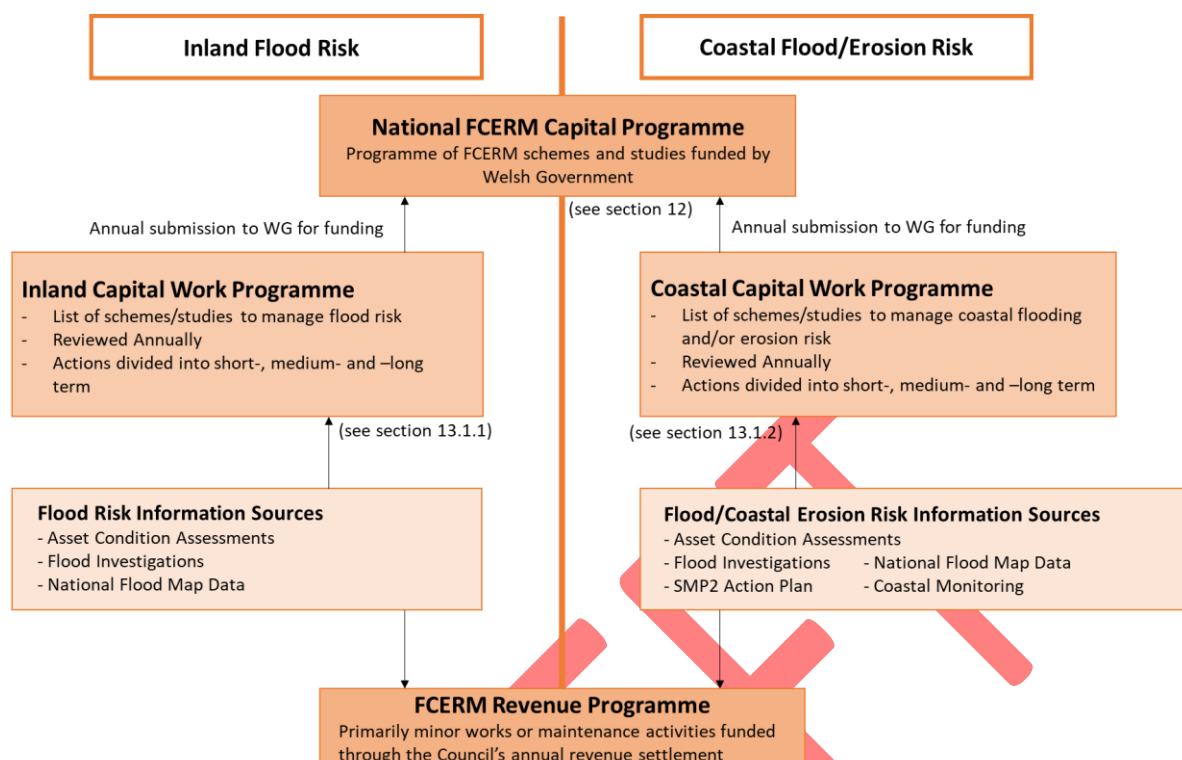
The Welsh Government prioritises FCERM schemes which primarily reduce risk to homes. Businesses and public buildings can also benefit from schemes, in particular those which reduce risk to a mix of development types such as homes and shops along a high street or local district centre. Schemes which only reduce risk to businesses remain eligible but should not be prioritised over schemes which reduce risk to homes. Funding is not available to enable new development.

10 FCERM Works Programmes

Actions 1.1A – 1.3A in section 8 describe how the Council will prepare long-term capital programmes centred around inland and coastal risks to our communities into the future. The preparation and delivery of our works programmes is pivotal to successful delivery of this Local Strategy.

Figure 2 below summarises how Cyngor Gwynedd FCERM programmes will be identified and promoted, using the different funding streams described above for delivery.

Figure 2: Development and promotion of Cyngor Gwynedd FCERM schemes



Each year Cyngor Gwynedd will prepare a pipeline of FCERM schemes and/or studies to be included on Welsh Governments capital programme for the following year/s, the pipeline submission will be based on the two separate long-term works programmes described below. Whilst we acknowledge that Cyngor Gwynedd are the lead organisation for the schemes and studies included on our programmes, we do anticipate that certain project will involve working in partnership with other RMAs.

Schemes are separated into short-, medium- and long-term projects according to priority (<5 years, 5-10 years and 10+ years respectively). Priority will mainly be assigned according to level of flood/coastal erosion risk, but other factors such as the Council's legal responsibilities will also influence priority. The selection of schemes from our programmes onto the annual pipeline will be according to priority and the Council's confidence of delivering a scheme or stage of scheme within the approaching funding window.

11. Monitoring progress

As the LLFA, Cyngor Gwynedd is responsible for monitoring the implementation of this Local Strategy. Measuring progress of strategy implementation will focus upon the delivery of the actions described in section 8, and the benefits derived from these actions. All actions have been developed to supplement the methods currently employed by the Council to manage FCERM risks, in order to achieve the objectives within this Local Strategy.

Measures will focus on but not limited to the following aspects:

- Number of properties benefitting from FCERM schemes included on the capital work programmes described under Actions 1.1A and 1.1B (and further in section 13.1 above)
- Long-term value to the Council of the schemes included on the capital works programmes (described under Actions 1.1A and 1.1B)
- Number of our FCERM assets in adequate condition to fulfil their function
- Effectiveness of flood investigation procedure

16. Environmental assessments

Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives and Actions presented take into account potential impacts on the environment.

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.

The SEA was developed alongside this Local Strategy and is contained within a separate report.

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, it was identified that a HRA needed to be undertaken in parallel with the SEA process.

The full HRA is contained within a separate report.

Committee	Communities Scrutiny Committee
Date	22 February 2024
Title	Grass Cutting and Maintaining County Road Verges
Cabinet Member	Councillor Berwyn Parry Jones
Author	Steffan Jones, Head of Highways, Engineering and YGC
Purpose	Review of the County's roadside maintenance arrangements

1. Presentation

- 1.1 The Department submitted a report to the Communities Scrutiny Committee in January 2023 to update it on the cut-and-collect trials that were taking place in selected areas within the County to promote wildlife and biodiversity needs, and to raise awareness about the current grass cutting arrangements on our county roads.
- 1.2 It was reported at the time that Gwynedd's road verge management had historically focused on safety considerations rather than any wider benefits such as supporting biodiversity. As a result, the Department partnered with the Environment Department to attract grant funding in order to carry out cut-and-collect trials in an effort to promote the needs of the environment.
- 1.3 It was also reported that the Department was due to enter into a new contract for rural road verge grass cutting services to commence in the 2023/24 financial year.
- 1.4 The purpose of this report is to update the Committee on the progress of the trials and the new road verge grass cutting contract, and to raise awareness about the Department's aims and objectives going forward.

2. Cut-and-collect trials

2.1 Legislative and strategic context

Public authorities in Wales must fulfil many duties to maintain and enhance biodiversity and to boost ecosystem resilience, including the following:

- **COP15 - United Nations diversity framework to address the global loss of diversity and restore natural ecosystems 2022.**
Protect 30% of terrestrial, inland water, and coastal and marine areas by 2030.
- **Environment (Wales) Act 2016 - Section 6.**
Public authorities have a duty to make biodiversity a natural and integral part of their policies and processes.
- **Well-being of Future Generations (Wales) Act 2015.**
Local authorities have a duty to improve the social, economic, environmental, and cultural well-being of Wales.
- **The Action Plan for Pollinators in Wales 2013.**
The Welsh Government's plan for co-ordinated policies and governance, and better and more connected habitats, to tackle the decline in pollinators in Wales.

2.1.1 Council officers are also required to comply with the following:

- **Gwynedd Biodiversity Duty Plan 2019**
The Council's plan for greeting its Section 6 duty in relation to maintaining and enhancing biodiversity and promoting resilience.
- **Climate and Nature Emergency Plan 2022**
The Council's plan to reach its ambition to become a net zero council by 2030.

2.2 Road verge management for pollinators

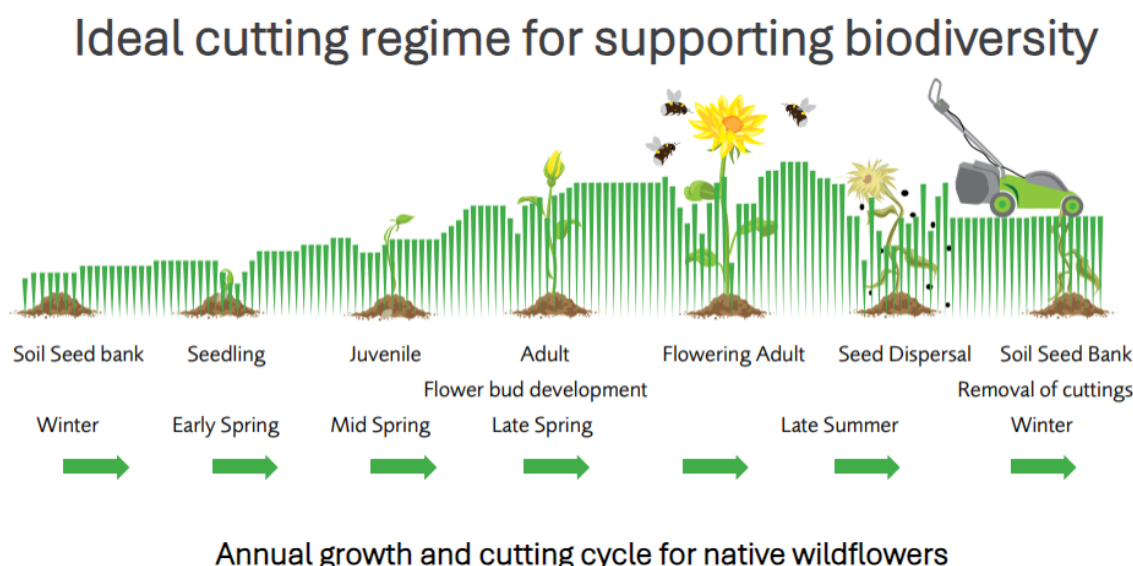
2.2.1 Pollinators have experienced global decline and this is mainly due to habitat loss and fragmentation. In order to maintain pollinators, it is necessary to increase the quality and quantity of habitats that provide food (flowers, nectar, and pollen), shade, and nesting sites. Road verges can be suitable as they incorporate a variety of habitat types including grassland, wetlands, hedgerows, and scrub. Therefore, with proper management, they have a particularly high potential to support pollinators.

2.2.2 Historically, Gwynedd's road verge management has tended to focus on safety considerations. As a result, our verges may have been cut too often, at the wrong times, with grass left on site after cutting. However, this type of management is not ideal to support pollinators.

2.2.3 It is recognised that the best way to assist in supporting pollinators, not only on road verges but other areas of grassland, is by adopting a cut-and-collect regime. Collecting the grass after mowing is important because:

- it prevents the accumulation of dead vegetation which can suffocate plants such as wildflowers.
- it leaves more open ground to allow seeds to grow.
- it reduces soil fertility therefore helping to slow the growth of some grass varieties that choke wildflowers.

2.2.4 In addition, there is a need to reduce the frequency of cuts to give wildflowers a chance to grow and thrive. Ideally, the verges should only be cut and collected once a year, around September. However, additional cuts may also be required later in the year, or early in the following year, depending on the circumstances. The ideal regime for cutting and collecting is shown below:



2.3 Implementation of the trials

- 2.3.1 Keen to make a difference and meet the Council's legislative and strategic duties and requirements, a plan was developed to pilot a cut and collect regime on some of the County's roads.
- 2.3.2 The Department was glad to be able to partner with the Biodiversity Service in the Environment Department to implement the scheme. As well as assisting in the development of the scheme, the Service secured funding through the Gwynedd Nature Partnership to carry out the trials.
- 2.3.3 Different locations were assessed; however, it was ultimately decided to locate the trials at sites on the A499 and A497 in Dwyfor. As well as being relatively safe, the sites were chosen because they were straight, wide, and long and therefore large enough to provide meaningful data that could be used to justify a change in mowing order. These roads were also chosen because they are designated as B-Lines, i.e. linear corridors of flower-rich habitats along which wildlife can be migrated or dispersed (see **Appendix A** for more information about B-Lines). It was a bonus that they were also on two of the main roads leading to Eisteddfod Llyn ac Eifionydd and therefore offered an opportunity to promote the trials to a much wider audience. The trial sites, along with other comparable sites developed by the Biodiversity Service, are shown below:



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- 2.3.4 The biodiversity value of each site was assessed before work began so that a comparison can be made once the trial period ends in 2025. Site preparation, i.e. cutting and collecting grass and scarifying the surface to remove unsuitable vegetation, began in October 2022. The sites were then sown with native wildflower seeds such as yellow rattle; a flower that is often used to create or restore wildflower meadows since it can help prevent the growth of grasses that choke wildflowers and also recycles soil nutrients. Below are photos of a site near Clynog Fawr on the A499 after preparing it for seeding:



- 2.3.5 The sites flourished during spring 2023. However, as expected, they did not produce an abundance of colourful wildflowers in the first year. However, the results in each of the sites were extremely promising and an early indicator that the trials were successful. It is expected that the flower display will be significantly improved next year, and over the following years, as the new management regime for these sites develops. The following photos were taken in June last year:



- 2.3.5 These sites were exempt from the normal rural verge cutting program (first cut during the spring) to allow the wildflowers to thrive. However, as per their management plan, they were cut and collected by specialist equipment during September.

2.4 Promoting the trials

- 2.4.1 Road verges left uncut during the spring can be considered untidy by the public and road users. As a result, it was vital that we controlled public perception of the trials as well as furthering our ambition to extend the cut-and-collect scheme in the future.

2.4.2 Therefore, all of the Local Members and Community Councils where the sites were located were notified of the trials and 'It's For Them' signs (a Welsh Government campaign to try and change people's mindsets in relation to mowing for the benefit of nature) were posted at each individual site (see **Appendix B** for details of the signs).



2.4.3 Public awareness about the scheme was also raised through social media:



- 2.4.4 More excitingly, the trials were promoted on the Council's stand at the Llyn ac Eifionydd Eisteddfod ground. This ran concurrently with the Environment Department's campaign to promote their Gwynedd Wildflower Meadows scheme for all Eisteddfod catchment primary schools to establish a network of wildflower habitats.



- 2.4.5 All the good work by the Biodiversity Service and this Department was used by Welsh Government's Minister for Environment as an example of how local authorities have incorporated and promoted the principles of 'It's For Them' and she particularly praised how the Council has embraced the objectives of the Local Nature Partnership.
- 2.4.6 An article about the trials was published in the 2022 issue of Dolydd Llyn (see **Appendix C** - page 8).
- 2.4.7 The Council is currently producing videos/animations to promote good roadside grass cutting practices which should be available for distribution soon.

2.5 Next steps

- 2.5.1 The results on the ground, and the positive comments received to date regarding the trials and our desire to improve road verges and public open space for the benefit of nature, have prompted the Department not only to continue the current trials but to extend them to other B-Lines roads within the County during the next financial year. To this end, discussions have commenced with the Biodiversity Service and Area Offices to produce a plan.
- 2.5.2 The majority of work on the sites to date has been conducted by a local specialist contractor. However, the Department is keen to undertake this type of work itself and gain expertise in the field. With this in mind, another great benefit of working in partnership with the Biodiversity Service is that they have been able to procure specialist equipment, including a tractor, grass collector, baler, etc. again through the Gwynedd Nature Partnership, for us to be able to make this a reality. A summary of the equipment procured so far is included in **Appendix D**. The Department's Grounds Maintenance Service has already commenced using the equipment to undertake projects on behalf of the Biodiversity Service and it is intended that they continue with the management plan for the existing trial sites as well as preparing any future roadside trial sites.
- 2.5.3 As they gain experience on the Council's roads and grounds, there is the potential for them to eventually be able to offer their services to other authorities and organisations who wish to undertake similar work in order to improve their roads and grounds for the benefit of nature.

3. New rural grass cutting services contract

- 3.1 In line with the Council's Highway Asset Management Plan - 2010, the Department used to cut verges on all county rural roads twice a year (between May and June and between September and October) with little regard for biodiversity.
- 3.2 The Department went out to contract for new rural road verge grass cutting services at the start of this financial year. However, now more aware of how our cutting regime can affect biodiversity, we still cut our verges twice a year but have limited the amount of grass we cut. As a result, we now cut a 1-meter-wide swathe on our Class 1 and 2 roads only in the spring and cut a 1-meter-wide swathe on our Class 3 and Unclassified roads, and the full width of all of the verges on our Class 1 and 2 roads, in the autumn.
- 3.3 This contract will expire at the end of the 2024/25 financial year with an option to extend it annually for two years thereafter. It is hoped that we will have prepared a new rural grass cutting policy based on the results of the cut-and-collect trials within this period and that any new regime will be reflected in preparations for the next contract.

4. Further considerations

- 4.1 Concerns were raised at previous meetings of the Scrutiny Committee about the potential impacts on the health and safety of our road users as a result of verges being left uncut to promote biodiversity. However, we can confirm that health and safety will always be prioritised and no site will be considered if there is the potential for it to affect the wellbeing of users.
- 4.2 Concerns were also raised about the possibility that some verges within our towns and villages would remain uncut as a result of the trials and this could have an impact on their appearance. However, while we aim to extend any new arrangements to urban areas so that a real difference can be made, the areas will be carefully chosen so that they complement the existing landscape and ensure that they do not have an undue impact on the appearance of village and town centres. We will ensure that the Local Member and the relevant community/town council participate in any decision when we include any location within towns and villages.

5. Conclusion

- 5.1 It will take time to move away from the traditional way of maintaining our road verges so that they benefit nature in the future. However, the sooner we start, the sooner we can start making a difference. It is hoped that the trials we are currently undertaking, and will conduct in the future, will ultimately make a difference by helping to create biodiversity corridors, or 'insect superhighways' as they are often called, to support the recovery of threatened species and the recovery of abundant populations of insects that are vital for pollinating our crops and wildflowers.

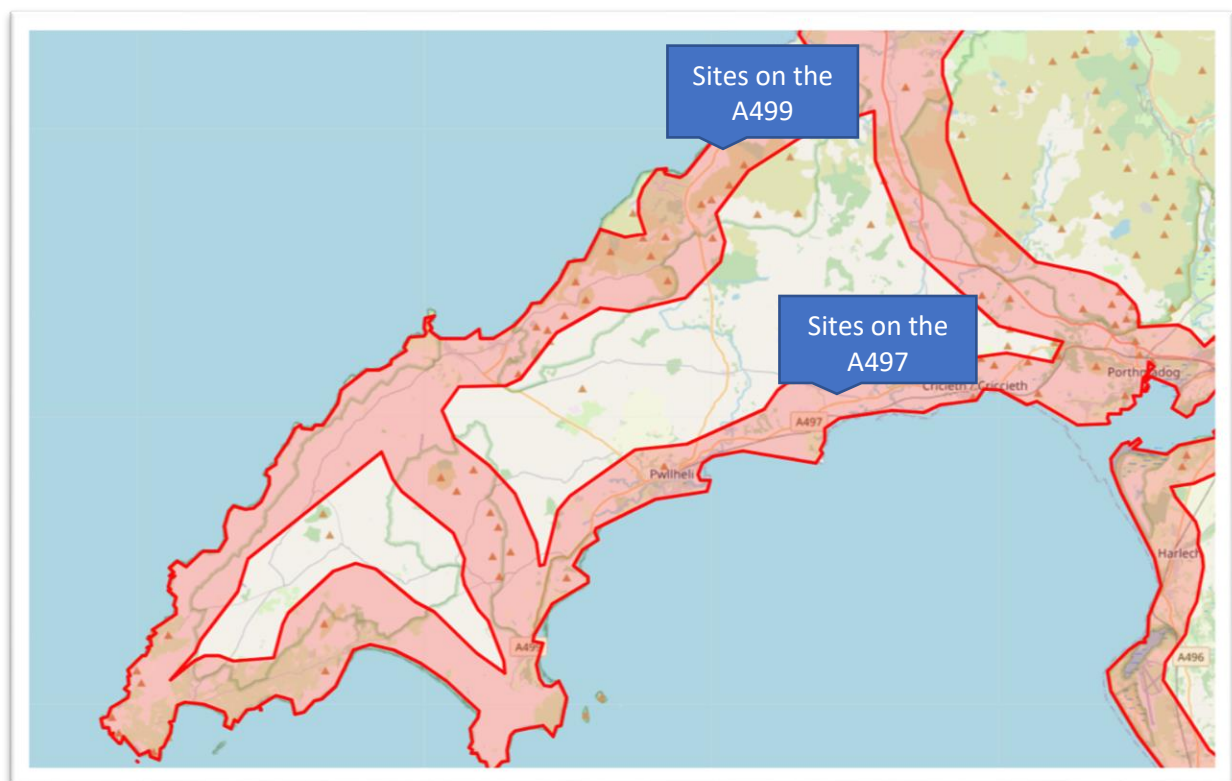
Appendix A:

B-Lines

B-Lines is a landscape-based biodiversity initiative developed by Buglife, a charity dedicated to conservation, education and policy change to protect insects, in partnership with local nature partnerships, statutory agencies, local authorities and other conservation partners.

B-Lines creates a network of wildflower habitats or corridors throughout the UK that designate and create biodiversity links.

The B-Lines in Dwyfor, and the approximate locations of the trials, are shown below.



Buglife B-Lines

It's for Them - Changing mowing to save wildlife

We are in a nature emergency. 1 in 6 species assessed in Wales are at risk of extinction. We need to act now to save them.

We can make road verges, parks and other green spaces more wildlife friendly. Regularly cut, closely mown grass may look tidy but it has little benefit for wildlife. Letting grass grow and having more meadow-like areas with wildflowers helps wildlife.

Plants

Wildflowers, including rare wildflowers, grow and produce seeds, allowing them to increase year-on-year.

Invertebrates

Wildflowers and grasses provide food for insects, including beetles, moths, butterflies, grasshoppers, bumblebees and hoverflies.

Long grass gives shelter for them to lay their eggs and complete their life cycles. A typical natural meadow can support more than **1,400** species of invertebrates.

Mammals

Bats, field mice, voles, shrews and hedgehogs eat the plants and invertebrates found in meadows.

Amphibians

Frogs and toads feed on invertebrates.

Reptiles

Slow-worms and lizards also eat invertebrates, and grass snakes eat frogs.

Birds

Small birds like finches eat seeds from wildflowers. Other birds such as swallows and swifts eat insects. Kestrels, buzzards and barn owls feed on small mammals.

Changing how we cut grass is about saving wildlife, not reducing costs.



For more information:

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Llywodraeth Cymru
Welsh Government

Dolydd Llŷn Meadows Newsletter 2022

- *Conserving, creating and sharing meadows and wildlife corridors on Llŷn*
- *Gwarchod, creu a rhannu dolydd a choridoriau bywyd gwyllt yn Llŷn*



“It took around 6,000 years to create the species-rich grassland for which the UK is globally famous, yet in less than a century we have lost 97%” (Plantlife)

Thankfully the importance of species-rich grasslands are increasingly being recognised, with more media focus again this year and various campaigns such as the Plantlife ‘Save our Magnificent Meadows’ as well as local projects such as ‘Green Resilient Spaces’ run by Social Farms and Gardens. The outline proposals for the Sustainable Farming Scheme, to be introduced in Wales in 2025, also includes plenty of scope for meadow creation in the farmed environment.

Meadows and pastures are not the only places where species-rich grasslands can flourish. In this newsletter I’ve tried to highlight the different spaces on Llŷn that we can look after in order to preserve this vanishing habitat. Every patch counts and helps to provide stepping stones for wildlife across the landscape!

Jo Porter (Dolydd Llŷn co-ordinator)



Meadow grasshopper on Yellow rattle



Scarlet waxcap



Chough



Common blue butterfly

Photographs by Ben Porter



Burial grounds

Every village has at least one chapel or church, and most have grounds consisting of unimproved grassland that can be full of flowers and fungi when given appropriate management. St Mary's Church in Nefyn (now Llŷn Maritime Museum) is in its second year of having a 'zoned' management (regularly mown at the front, whilst the area at the back is allowed to grow, flower and set seed).

www.caringforgodsacre.org.uk offer plenty of resources that can help come up with a plan.



St Mary's churchyard, Nefyn

Aberdaron Churchyard

Aberdaron churchyard boasts almost 80 species of wild plants that have been increasing in recent years. The positive management for flowers and wildlife started more than twenty years ago when the then Vicar Evelyn Davies stopped cutting the grass until after most of the flowers had finished. She retired shortly after this, but Ian and I have kept the cutting regime going, refining it further over the years. Most of the grass is cut twice a year, some not cut at all, and the area in front of the church regularly cut to give a managed, tidy appearance. Good communication with the grasscutter is important as seasons can vary.

Some five years ago the Gwynedd County Recorder looked at the plant life and recorded 70 species. We have been adding to this each year. It really is amazing how plants colonize suitable ground and conditions by themselves. In recent years sea lavender appeared as a small clump. The ground near it has been left uncut and we now have two large areas of this pretty, late summer plant. More recently orchids have appeared, although irregularly and in different places. We were delighted this year to see two butterfly orchids for the first time. Along with the plants come insects. This year there were a large number of burnet moths. A number of butterflies and thrift clearwing moths add more interest and diversity.

For anyone wanting to develop their churchyard do contact 'Caring For God's Acre', your local Wildlife Trust or National Trust. They have all been very helpful with both ideas and practical help. I am also available to discuss what we do in more detail.

Betty Wood

The interpretation board for St Hywyn's (image below) has been funded by the Welsh Government funded project 'Dawnsio ar y Dibyn)



Thrift (Betty Wood)



Kidney Vetch

Garden lawns and grassland

"My garden sings its own song. It starts after the dawn chorus with the honeybees, followed by the heavier buzz of the bumbles, punctuated by the hoverflies' higher pitch. You can even sometimes hear the rustle and creak of beetles as evening comes. To lie among it, eyes closed, is to hear something exquisite.

My garden sings this song because it is allowed to. I have long been a proponent of neglecting lawns to nurture nature, and there isn't a manicured strip of green that doesn't ache to do the same.

Most lawns have been silenced by the regime of a lawnmower, leaving just a few species of grass. They are biodiversity deserts, barren of beetle and bee, contributing to a vanishing insect population.

There is another way. Your lawn is already a wildflower meadow – every inch of soil is waiting for its moment to burst forth. Those weeds are some of the best insect food, growing despite the weather, endlessly repeat blooming, rich in nectar and pollen. A seed bank is already there – it might even contain orchids. Oh, and perhaps plenty of moss, essential stuff for nests and nature of all sorts."

Alys Fowler in The Guardian Wed 24 Apr 2019

Here are a couple of examples of turning lawns into meadows from Llŷn residents:

Local Cricieth resident Elizabeth George, said: "A little over a year ago we decided to work with the Dolydd Llŷn Meadows project to increase the wildlife interest of our garden. We were hoping to turn our old lawn into a diverse meadow of wild flowers, grasses and a colourful habitat for birds, bees, butterflies and much more.

With the help of a local gardener, who works with the Project, we sowed seeds harvested from a local farm's traditional hay meadow, and the plants have now established and are beginning the transformation we were hoping for, with the crucial plant yellow rattle establishing and creating conditions for other flowers and grasses to follow. We're now looking forward to see what next spring will bring."



Before



Creating bare patches to sow seed into



After

Mary Robinson, Rhyd-y-clafdy

'I'm surrounded by large monoculture arable fields. When I bought my house a few years ago there was a tiny paddock which had been turned into part of the garden: short grass, mown frequently, weed killer on anything that wasn't grass. A traditional *clawdd* on one side was a refuge for a few wild flowers and plenty of brambles and bracken. I decided that frequent mowing was a waste of time, money, petrol and the land itself and longed for the flower-rich meadows of my father's smallholding when I was growing up in the sixties. I let the grass grow in the summer before cutting it short in the autumn. I kept a narrow path round the perimeter mowed. Did I notice any changes? Yes, *sioncyn y gwair*! Grasshoppers – some even ventured into my conservatory when the door was open. There was certainly more plant variety – bird's foot trefoil, red campion, cat's-ear, violets, scarlet pimpernel, narrow-leaved plantain, ground ivy.

Two years ago I bought some commercially produced yellow rattle seed and sowed it on two experimental plots from which I had scraped away some of the grass. The result was – nothing. A year ago I was given some Llŷn-grown seed by a friend. Jonathan Neale made four one metre-square experimental plots and I was delighted that this summer the yellow rattle flowered prolifically. But I knew the little paddock could do better. One problem was the 'thatch' that had built up in the thick grass. This month Jonathan hired a special machine that tore up the thatch and dug into the ground, leaving the place looking like a battle-field. He sowed some of the yellow rattle seed I had saved plus a big bag of locally grown seed. I'm hoping that next year I'll be on the winning side in my battle to re-create a traditional wild flower meadow.'



Camon C8 Rotavator

For more information on making mini meadows visit the Plantlife meadow hub:
<https://meadows.plantlife.org.uk/making-meadows/>

All photos in this section by Jonathan Neale

Farmland

The Welsh Government is in the process of developing a new agricultural scheme that will replace the current single farm payment and environmental opt-in scheme (Glastir).

The detailed proposals - outlined in the [Sustainable Farming and our Land consultation](#) - aim to protect the land and the environment for future generations whilst providing a stable income for farmers.

Under the plans, farmers will be rewarded for environmental outcomes such as better air quality, reducing carbon emissions and improving soil quality. This will help strengthen the farmer's business and provide benefits for all the people of Wales.

Three National Trust tenanted farms in Llŷn have been trialling these principles in a 'Payment for outcome' project. The project is being delivered through the Llŷn partnership and funded by the National Trust and Welsh Government.

I interviewed Carwyn from Cwrt farm who has been part of a 'payment for outcome scheme' for the last few years.

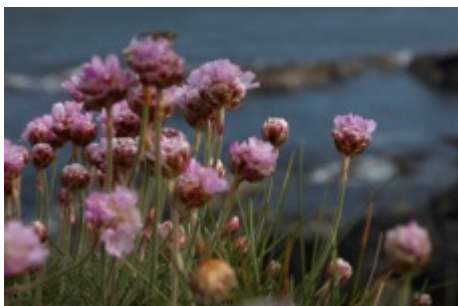
1. What are the main changes you have made as a result of taking part in the 'Payment for outcome' trial?

We have implemented a number of changes such as increasing the size of the coastal strip by making a new *clawdd* one field inland - and are in the process of restoring these fields to hay meadows. This also involves changing the annual rhythm of grazing in these fields, as well as on the coastal slopes. We have also started to use herbal leys instead of ryegrass mixtures and have planted trees on slopes and margins. We also have a wide strip around some of the fields to encourage native arable species such as corn spurrey and wild pansy.

However, the main shift has been a change of mindset, instead of 'more is better', we are not as intensive as we used to be so there are less inputs.

2. What is the main difference between this new scheme and previous environmental schemes such as Glastir?

Our opinion counts, so we feel more included and more in charge. We can make our own decisions about how to achieve things instead of being told what to do. Glastir was very prescriptive with just a list of dates when we could or couldn't do things, and a list of actions we had to do to get paid. It was very heavy on paperwork and there was no one to ask or get advice from. With this scheme there is much more flexibility with the changing seasons and available advice. There's also incentive to make the changes because the better a habitat becomes, the bigger the payment. There's also more collaboration, and we have a better tenant/landlord relationship instead of just getting a bill twice a year or being in touch when something goes wrong. This scheme is about rewarding good practice that benefits the wider environment and those who live in it, as well as helping to address the climate and biodiversity crisis. So, for example, grazing the coastal slopes at certain times of year also benefits those who use the Wales coastal path, and increases diversity on the slopes. Historically this strip was just left so rank grasses and bracken took over.



Flowering Thrift © Ben Porter



Six-spot burnet on bird's foot trefoil © Ben Porter

3. Have you reduced your livestock numbers?

We have reduced our number of sheep but have about the same number of cows. However, we have changed our breed of cattle to be more suited to a grass-based system.

4. Has your food production/output increased?

It's probably a bit less, but not much. However, we are paid for the other benefits that we produce – like the benefits to pollinators etc. We are a farm business, so we have to be economically viable. Having the best hay meadows in the world just wouldn't work unless we were paid to do it. We have reduced our inputs - like the amount of animal food that is bought in, which is imported from around the world. In trying to work with what we've got; we reduce our carbon footprint and make the farm more resilient.

5. Has your view of hay meadows changed?

Yes. I used to think they were a waste of time and space as we just wanted to make as much silage as possible. Now I see how they fit in to the bigger picture – every part of the cycle needs looking after because there's a knock-on effect. For example, pollinators are important on the farm and need to have both habitat and forage throughout the year.

6. What value do the hay meadows have in your farm system?

Well, bottom line, we are paid to do it, so there's value there – we're relying on them for a living rather than a hobby. But we have seen a big value with the increasing dry summers – the meadows are in a location where the grass usually burns off, but the mix of meadow species are more tolerant to drought as many of them are deeper rooting. We especially saw how resilient they were this summer. The hay itself is also better for feeding the stock in winter and doesn't need wrapping in plastic. It isn't as good for fattening stock as ryegrass is but it's good nutritional value through the winter.

7. Would you have known how to restore a meadow beforehand?

No. I just thought a meadow was what you got if you neglected a field. Now I know the main components of a meadow and the processes taken to restore one.

8. Have you seen any changes in the wildlife?

I do need to take more notice; often it is what people tell me has changed! But I do notice the curlews and chough feeding in the big meadow, and plenty of swallows swooping over the fields for insects – and butterfly orchids appeared on the coastal slope this year which hadn't been seen for a long time.

9. What would you say to other farmers who are debating whether to get involved with the new scheme?

Don't knock it until you try it! Go in with an open mind and be willing to learn from the advisors. Be willing to give it a try – if it doesn't work you can adjust what you're doing.... there is flexibility. Don't bother, though, if you're just going to pick holes in it.

10. One last word?

'Farming and nature need each other. Without one you won't have the other'.



Small holdings and privately owned fields

There are plenty of fields in Llŷn that are not in agricultural use, but which can be restored as meadows by the introduction of favourable management. An example of this is Gorlan Hen near Pengroeslon.

Gorlan Hen is a 300-year-old cottage which has a 5 acre meadow as part of the smallholding. This field has not been ploughed or agriculturally improved for at least 50 years, probably longer. The management prior to 2018 was fairly ad hoc, with an occasional hay cut and some grazing and although it was relatively diverse, it was becoming more and more rush dominated. It had a close call in 2018 when a new local grazier took over and nearly sprayed it with Round up, but thankfully a number of serendipitous events just saved it in the nick of time!

Since then an annual rhythm of management has been introduced involving a late summer hay cut, overwintering sheep grazing and occasional topping of the rushes early in the year prior to being left to grow, flower and set seed. This is carried out by an arrangement with a local grazier (who now understands its importance!).

It is probably one of the very few remaining ancient meadows in Llŷn and provides a stunning display of flowers throughout the summer, particularly ox-eye daisy, yellow rattle, common spotted-orchids, selfheal, sorrel, bird's foot trefoil and knapweed. To stand in this colourful meadow in midsummer, surrounded by the hum of insect life, is an incredible experience. Steve and Felicity, the owners, had an open day for the meadow group on 22nd June, on a stunningly beautiful day – captured in the images below.



Images by Steve Porter

Road verges

Many councils have started to adopt practices of good road verge management, as recommended in the Plantlife 'Good verge guide' <https://www.plantlife.org.uk/uk/our-work/publications/good-verge-guide-different-approach-managing-our-waysides-and-verges>. Gwynedd biodiversity officer, Hywyn Williams, shares with us Gwynedd's latest project aimed at increasing biodiversity on our road verges:

"Some of you who have travelled along the A499 and A497 in Gwynedd recently may have commented on seeing 'even more' roadside cones ensuring a safe working area for those operatives who are working on these roadside verges. However, you may also have noticed that the work didn't involve heavy machinery or digging equipment either.

Gwynedd Council (Highways and Environment Departments) are working in partnership to improve 8 roadside verge plots along the above highways in order to improve and promote the wildflower and pollinator habitats which are so important to us all.

Preparatory work has already begun on a new 'cut and collect' management regime for these sites, which will also include the introduction of locally harvested seed to encourage 'new wildflower meadows and habitats'. Gwynedd Council is extremely thankful to the Dolydd Llŷn community for their kind donation of locally sourced seed (which will be incorporated into the sites) ensuring that local provenance is fundamental to the success of the project.

The Council has also secured funding from the Gwynedd Nature Partnership to purchase new 'cut and collect' machinery which will provide staff with the appropriate equipment to expand its 'green space management for biodiversity improvement' in the future.

This new management of our roadside and green spaces will hopefully begin to reverse the past trends of habitat loss and if you would like more information on the above work or maybe suggest areas for 'new cut and collect' management, please contact hywynwilliams@gwynedd.llyw.cymru."



One of the new Rytech cut and collect machines, and a verge prepared ready for sowing (Hywyn Williams)

Community Meadows

The Mynytho community meadow is now in its second year and has been full of botanical surprises - a stunning greater butterfly-orchid appeared in the middle of the patch! Robert Parkinson from the National Trust ran another session for the pupils of Ysgol Foel Gron, looking at the wildflowers and insects in the meadow



Ysgol Foel Gron school session



Greater butterfly orchid in Mynytho community meadow, and the interpretation board funded by Plantlife



Wildflower meadows in Llanbedrog Playing Fields

Llanbedrog community council have also assigned an area of their playing field to be a wildflower meadow. A creation project was carried out this year, as Alaw Ceris, Chair of the community council describes:

The Llanbedrog Playing Fields Committee were very fortunate to receive specialist advice from Jo Porter over the summer months in order to start work on establishing wildflower meadows in Llanbedrog Playing Fields.

The field is situated at the heart of the village of Llanbedrog, and it has been a priceless amenity for the community and visitors alike. Unfortunately, however, over the last few years, its condition has deteriorated and so a Committee was formed with the aim of renovating and improving the area. Part of these improvement works involves establishing an area of wildflowers so as to improve the area's biodiversity, with benefits to nature and the community.

Thanks to support from the National Trust, a ryetech machine (below) was used to prepare the ground in the park where wildflower seeds were to be sown.



Following this work, 24 pupils from Years 3 and 4 of Ysgol Llanbedrog were invited to help us sow the wildflower seeds with local provenance in Llŷn that had been provided by Jo Porter. The pupils are working on nature so they were delighted with this opportunity to help us and learn about the importance of wild flowers. Following a discussion about the work of sowing the seeds and why we're doing this, everyone had a lot of fun sowing the seeds before jumping on them to make sure that they weren't blown away by the wind!

Mrs Jones, Headteacher of Ysgol Llanbedrog said: "We're very grateful for this opportunity for our pupils to take part in the process of planning and making improvements to the park. Our work on nature ties in brilliantly with these wildflower meadows. The next step will be for them to design scarecrows so as to prevent the birds from eating the seeds!"

The following week the pupils returned to create their scarecrows ... here we present Bryn and Beti, the Llanbedrog Playing Field scarecrows!

Alaw Ceris



Meadow Making on Llŷn 2022

It was another successful year for seed harvesting, with an abundance of yellow rattle-rich meadow seed being collected from Iwan Edgar’s fields, a key donor site near Abererch, in early July. This was dried (thanks to Felin Uchaf for providing the space!) and then distributed to a variety of meadow creation and restoration projects across the peninsula, some of which are featured in this newsletter, including the road verge scheme and school’s meadow project.

The National Trust also undertook a programme of meadow-making projects, using both brush harvested seed and green hay, harvested from donor sites on National Trust-owned land.

All this meadow restoration work has been made possible by funding from Plantlife, Gwynedd Council (Dawnsio ar y Dibyn), and practical help from the National Trust. Many thanks to all!



The brush harvester at work



Sieving the seed on site



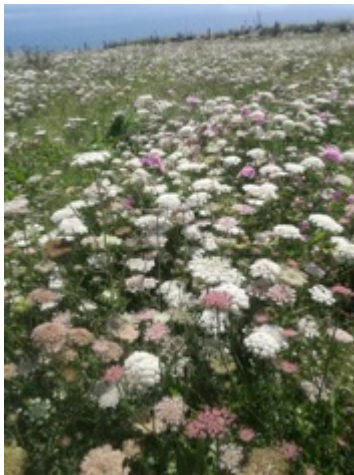
Yellow rattle rich meadow seed



A Rhiw meadow full of Common catsear



A Goldfinch in a meadow of Common sorrel © Ben Porter



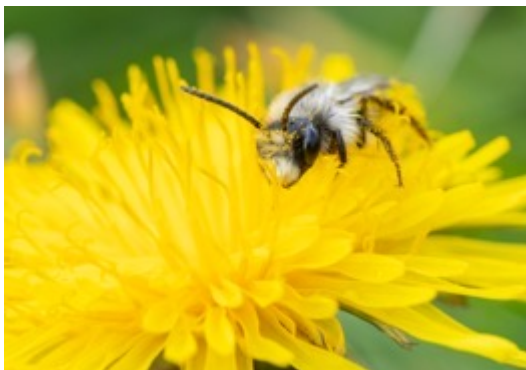
Wild carrot



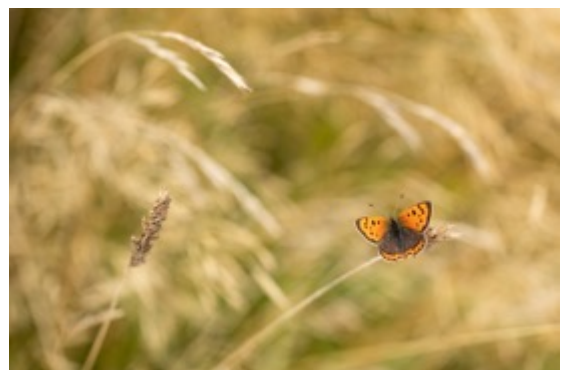
A species rich meadow



Common blue



An Ashy Mining Bee in a hay meadow © Ben Porter



Small copper butterfly © Ben Porter

Many thanks to all contributors, and to Haf Meredydd for translation. If you have any questions about Dolydd Llŷn or would like to be included in the mailing list, please contact Jo Porter bardseyjo@gmail.com

(Photos in the newsletter by Jo Porter unless otherwise credited.)

Appendix D

The following is a list of equipment (investments) secured by the Gwynedd Nature Partnership to maintain the Council's roadside habitats and green locations for the benefit of biodiversity.

	Investment (Equipment)	Cost £
1	New Holland t5 (110hp) Tractor	£49,500
2	Amazone Mower	£48,000
3	Danelander Baler	£7,800
4	Grass Mower	£4,800
5	Ifor Williams Trailer	£4,850
6	Rytec cut-and-collect attachment	£18,000
7	Appropriate signs	£450
Total		£133,400



New Holland Tractor with Rytec cut-and-collect attachment



New Holland Tractor with the Danelander Baler



Amazone cut-and-collect mower



MEETING	COMMUNITIES SCRUTINY COMMITTEE
DATE	22 February 2024
TITLE	Communities Scrutiny Committee Forward Programme
PURPOSE OF THE REPORT	<ul style="list-style-type: none"> To adopt an amended work programme for 2023/24. To confirm arrangements to identify items to be discussed at the Committee's meeting in May 2024.
AUTHOR	Bethan Adams, Scrutiny Advisor

1. A revised Forward Programme for 2023/24 was adopted at the Committee's meeting on 30 November 2023.
2. At the Committee meeting, the 'Article 4 Direction - Public Consultation' item was scheduled for the 18 April 2024 meeting. The meeting will be held during the pre-election period of the Police and Crime Commissioner election which is to be held on 2 May 2024. It is necessary to consider what is intended to be scrutinised during the pre-election period.
3. Considering the nature of the discussion in relation to introducing an Article 4 Direction, the Monitoring Officer has given guidance that the matter should not be scrutinised during the pre-election period.
4. To ensure that scrutiny takes place prior to the Cabinet making a decision, a timely date has been identified in the draft calendar for the Committee's first meeting in the 2024/25 council year. It is anticipated that the meeting will be held on 16 May 2024, but this is dependent on the Full Council's decision at the 7 March 2024 meeting, when the Council will consider the committee calendar.
5. As a result, following consulting with the Chair, the 'Highway Maintenance Manual' item was re-scheduled from this meeting to the 18 April 2024 meeting. This was decided on the basis that it would be possible to give due attention to the items with three items per meeting.
6. See attached as an appendix to the report, the revised work programme for 2023/24.
7. Given that the last Committee meeting in the present council year will be held on 18 April 2024 and the draft date earmarked to hold the subsequent meeting on 16 May 2024, to ensure sufficient time for the Departments to prepare reports, a request is made for the Committee to agree that the Chair and Vice-chair in their contact meetings with the Heads of Department and relevant Cabinet Members identify items to discuss alongside the 'Article 4 Direction - Public Consultation' item at the May meeting.

8. A report will be submitted to the Committee on 18 April 2024, to confirm the items to be scrutinised at the May meeting.
9. There will be an opportunity for Committee Members to prioritise items to be scrutinised at the other four meetings in 2024/25 at the Annual Workshop.
10. **The Communities Scrutiny Committee is asked to:**
 - (i) adopt the revised work programme for 2023/24;**
 - (ii) confirm arrangements to identify items to be discussed at the Committee's meeting in May 2024.**

COMMUNITIES SCRUTINY COMMITTEE FORWARD PROGRAMME 2023/24

13/07/2023
<ul style="list-style-type: none"> • Annual Report 2022/23 - Gwynedd and Anglesey Public Services Board • Developments in the Public Transport field
05/10/2023
<ul style="list-style-type: none"> • New Local Development Plan - The Delivery Agreement • Roll-out of public charge points for electric vehicles • Public Toilets
30/11/2023
<ul style="list-style-type: none"> • Climate and Nature Emergency Plan • Local Flood Strategy
22/02/2024
<ul style="list-style-type: none"> • Annual Update by the Gwynedd and Anglesey Community Safety Partnership • Local Flood Strategy • Grass Cutting and Land Maintenance
18/04/2024
<ul style="list-style-type: none"> • Governance Structure and Delivery Arrangements of the Gwynedd and Anglesey Public Services Board • Highway Maintenance Manual • Street Scene Service

Items to be programmed in 2024/25:

Article 4 Direction - Public Consultation

Waste Collection and Recycling Services

Public Protection Service