



Research Briefing **Flood and Coastal Erosion Risk Management in Wales**

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National Assembly for Wales
Research Service

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Research Briefing

Flood and Coastal Erosion Risk Management in Wales



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1. Introduction

Natural Resources Wales (NRW) estimates that there are 208,500 properties at risk of flooding from rivers or the sea, 163,000 properties at risk from surface water flooding and 2126 properties at coastal erosion risk by 2114 if defences are not maintained (based on 2014 data). The 2013-14 winter coastal storms highlighted the damage and disruption that can occur, affecting communities, businesses and the wider economy. Historic flooding events in Wales, such as the **Towyn disaster** in 1990, also demonstrate the vulnerability of the Welsh coast to coastal hazards. Such events are anticipated to become more frequent and more severe, with the 2017 **UK Climate Change Risk Assessment for Wales** identifying significant climate change risks for Wales and more action required to address them.

Whilst it is not possible to prevent all flooding and coastal erosion, risks can be managed and in doing so, the impacts on vulnerable coastal communities can be lessened. The Welsh Government is responsible for developing Flood and Coastal Erosion Risk Management (FCERM) policy for Wales.

2. Flood and Coastal Management Act 2010

The ***Flood and Water Management Act 2010*** (hereafter, the Act) received Royal Assent on the 8 April 2010. It updated the legislation governing flooding and coastal erosion. The Act defines a flood as 'any case where land not normally covered by water becomes covered in water'. The Act defines coastal erosion as 'the erosion of the coast of any part of England or Wales'.

Section 6 of the Act defines the roles and responsibilities of 'Risk Management Authorities'. In Wales these are NRW, all 22 Welsh local authorities (who act as Lead Local Flood Authorities), highway authorities and water and sewerage companies. There are other bodies that have a non-statutory role in FCERM, including private landowners and owners of infrastructure assets such as Network Rail and the National Trust.

3. National Strategy for Flood and Coastal Erosion Risk Management in Wales

Under the Act, Welsh Ministers must develop, maintain and apply a strategy for flood and coastal erosion risk management in Wales (hereafter, the National Strategy).

The **National Strategy** published in November 2011 by the Welsh Government provides a framework for flood and coastal erosion risk management in Wales and contains four overarching objectives for managing flood and coastal erosion risk:

- Reducing the consequences for individuals, communities, businesses and the environment from flooding and coastal erosion;
- Raising awareness of and engaging people on flood and coastal erosion risk;
- Providing an effective and sustained response to flood and coastal erosion events; and
- Prioritising investment in the most at risk communities.

The Welsh Government has stated that the National Strategy represents a change in the way in which flooding and coastal erosion is dealt with in Wales, moving from dealing with defence and drainage

alone, to dealing with sustainable and innovative approaches, and working with natural processes rather than against them.

The National Strategy states that implementing these objectives is the responsibility of everyone involved in or affected by flood and coastal erosion risk management, including the Welsh Government and the Welsh Risk Management Authorities. The National Strategy is intended to support local decision-making and engagement in flood and coastal erosion risk management, to ensure risks are managed in a co-ordinated way across Wales.

Reports on the progress of the National Strategy are to be made every two years by NRW, as required by the Welsh Government. These should include all aspects of flood and coastal erosion risk management undertaken by all Risk Management Authorities. To date, two reports have been prepared – see section 8: Key Reviews and Reports. The Welsh Government has ultimate responsibility for ensuring compliance with the National Strategy. In [written evidence \(PDF 132KB\)](#) to the Climate Change, Environment and Rural Affairs Committee on 20 July 2017 the Cabinet Secretary stated that the National Strategy will be updated in 2018.

4. Shoreline Management Plans

A Shoreline Management Plan (SMP) is a large-scale assessment of the risks associated with coastal processes and aims to reduce these risks to people and the built, historic and natural environments. SMPs identify assets that erosion or tidal flooding could affect, monitor change, and set out objectives and policy for local coastal defence.

SMPs are developed by Coastal Groups who are made up of Operating Authorities, NRW, Welsh Government and other bodies with coastal responsibilities. Welsh Government funding is used to engage engineering consultants who prepare the plan on behalf of the group. The production of the plan should follow the 2006 Defra [guidance](#) that applies in England and Wales.

SMPs identify the most sustainable approaches to managing the risks to the coast across three epochs: the short term (0-20 years), the medium term (20-50 years) and the long term (50-100 years). The plans consider and propose the four standard policy options for sub-divisions of the coast to create a policy framework:

- **Hold the existing line of defence** – by maintaining or changing the standard of current protection. This can involve different defence methods, including hard and soft engineering such as sea walls and beach nourishment;
- **Advance the existing defence line** – by constructing new defences seaward of the original defences. This option is limited to those frontages where significant land reclamation is under consideration and there are no major environmental or engineering constraints;
- **Managed realignment** (managed retreat) – by allowing the shoreline to naturally move either backwards or forwards, but some management to control or limit its movement. Identifying a new line for coastal defences and, where appropriate, constructing new defences on a different line to the original defences; and
- **No active intervention** – where there is to be no planned investment in coastal defences or operations. However, monitoring and inspections of the shoreline will still be required.

It should be noted that the allocation of particular policy types within the SMP does not mean that the Operating Authorities have secured the funding to deliver these policies. The policies in the plan are

aspirational and are to be taken forward by the relevant Local Authority via a local coastal strategy or scheme.

In Wales there are four second generation SMPs (SMP2) and five Coastal Groups:

- **Severn Estuary SMP2** (Anchor Head to Lavernock Point) Severn Estuary Coastal Group – *cross border with England*;
- **South Wales SMP2** (Lavernock Point to St Ann's Head) Swansea and Carmarthen Bay Coastal Engineering Group;
- **West of Wales SMP2** (St Ann's Head to the Great Orme) Cardigan Bay and Ynys Enlli to the Great Orme Coastal Groups; and
- **North West England and North Wales SMP2** (the Great Orme's Head to the Scottish Border) - North West England and North Wales Coastal Group - *cross-border with England*.

Whilst non-statutory policy documents, SMPs must be signed-off by the members of the Coastal Group, NRW and the Welsh Government. The four Welsh SMP2s were approved by the then Minister for Natural Resources between October and December 2014.

5. Local Flood Risk Management Strategies

Under the *Flood Risk Regulations 2009*, Lead Local Flood Authorities (LLFAs) are required to identify and map hazards and risks associated with flooding. Part 1 of the Act also places a responsibility upon LLFAs to develop, maintain, apply and monitor a strategy for local flood risk management. Welsh Government guidance on the preparation of Local Flood Risk Management Strategies was issued in November 2011. These Local Strategies sit below, and complement, the SMPs and the National Strategy. They should address 'local flood risks' that may include the risks of flooding from ordinary watercourses, surface water run-off and ground water. Under the guidance, the Local Strategy should identify the Risk Management Authorities with their roles and functions, as well as the responsibilities of land and home owners who have watercourses on or adjacent to their land. They should also identify what communities and residents can do to reduce the risks of flooding to their properties and how properties can be made more resilient, where flooding cannot be avoided or reduced.

6. Flood and Coastal Erosion Committee

Section 81(1) of the *Environment (Wales) Act 2016* provides Welsh Ministers with the power to establish a Flood and Coastal Erosion Committee. This will replace the previous Flood Risk Management Wales (FRMW) Committee that was disbanded with the introduction of *Environment (Wales) Act 2016 (Commencement No 3) Order 2017* on 14 July 2017. A key activity of FRMW had been to consent and scrutinise NRW's regional flood and coastal erosion risk management programme. NRW has created a Flood Advisory Group to review and scrutinise NRW's works programme in the interim to ensure appropriate scrutiny.

The *Flood and Coastal Erosion Committee for Wales Regulations 2017 (PDF 60KB)* set out the duties, powers, membership and reporting arrangements of the new committee. In advising Welsh Ministers on FCERM matters in Wales and providing advice on flood and coastal erosion matters to all Welsh Risk Management Authorities, it will have a wider role and remit than the previous FRMW Committee. The appointment by Welsh Ministers of a Chair and committee members is expected to be completed before the end of 2017.

7. Flood and Coastal Erosion Risk Management Funding

Since 2010-11, the Welsh Government has allocated £381 million to FCERM. In [written evidence \(PDF 132KB\)](#) to the Climate Change, Environment and Rural Affairs Committee on 20 July 2017, the Cabinet Secretary outlined the following investments:

This financial year we will invest over £54 million (capital and revenue) to support activities and schemes to reduce flood and coastal risk across Wales. [...] We have committed to continue funding small-scale flood risk management works, providing a simpler route for local authorities to apply for funding for schemes up to £100k. This financial year we will provide £2 million for this vital grant. We are working with local authorities on plans for a £150 million capital value investment in coastal risk management with funding for construction starting from 2018-19.

A Wales Audit Office [report](#) from 2016 states that funding “has been broadly stable from 2010-11 to 2016-17, with variation in EU funding from year to year”. On its approach to funding the Welsh Government [stated](#) in 2014:

Flood and coastal erosion risk management remains a priority for this Government. We will not know our settlement from UK Government for 2016-17 and beyond until the 2015 Spending Review. However, all indications are that public spending constraints are likely to continue. Although there remains uncertainty as to our future settlement beyond 2015/16, we will continue to maximise opportunities to sustain investment within the funding envelope available.

In 2016-17 NRW received more than half of Welsh Government’s FCERM budget. Funding was also given to local authorities and research bodies. The Welsh Government states in the National Strategy that the budget for flood and coast erosion work in Wales is constrained by the UK Government through the annual block grant. The National Strategy also emphasises that as the level and nature of risk changes in the future, Welsh Risk Management Authorities will need to find other sources of funding to ensure that communities across Wales receive the level of funding they need to manage the risks they face. Furthermore, it highlights that a 2010 Environment Agency [report \(PDF 1.24MB\)](#) suggests that to simply maintain current levels of risk over the next 25 years, Wales might need to treble current investment levels.

8. Key Reviews and Reports

There have been a number of reviews into FCERM practices in Wales. A short overview of the key reviews and reports is provided below:

Wales Coastal Flooding Review

Following the winter storms of 2013/14, the Welsh Government asked NRW to lead a Wales Coastal Flooding Review. Phase 1 looked at impacts and costs and Phase 2 identified lessons learnt from the coastal flooding incidents. [Phase 1](#) estimated that there had been £8.1m damage to coastal defences at 175 locations in Wales, and approximately 360 hectares of agricultural land were flooded. It noted that the impacts could have been worse, with existing defences protecting many properties and farmland. Phase 2 identified 47 recommendations to help deliver a more resilient coastal flood and erosion management service for Wales. A delivery plan was published in January 2015 setting out how these would be implemented. The Welsh Government's [response](#) accepted either outright or in principle all 47 recommendations, spanning areas such as flood forecasting, flood warning and community responses, infrastructure resilience, operational responses to incidents and investments in defences.

Wales Audit Office

In 2016, the Wales Audit Office published a [report](#) into Coastal Flood and Erosion Risk Management in Wales. This report followed on from their earlier 2009 [report](#). Consistent findings in both publications related to the limited capacity and budget within coastal Local Authorities and the Welsh Government for coastal management, with clear improvements needed to governance arrangements. In their [response \(PDF 214KB\)](#) to the 2016 report, the Welsh Government noted that the both review of the National Strategy and the establishment of a new Flood and Coastal Erosion Committee provide clear opportunities to consider the points made by the Wales Audit Office.

National Assembly for Wales' Public Accounts Committee

In 2010 and again in 2017 the National Assembly for Wales' Public Accounts Committee undertook inquiries into FCERM. The Committee's June 2017 [report \(PDF 719KB\)](#) contained 12 recommendations for the Welsh Government. It highlighted that during the course of their inquiry a recurring theme identified was a lack of leadership from the Welsh Government, for example, the absence of a strategic approach to managed realignment. The Welsh Government's [response](#) accepted the majority of the recommendations. In a very similar vein the Committee's 2010 [report \(PDF 1.8MB\)](#) noted concerns with Welsh Government capacity and leadership, and called for greater communication of coastal risk to communities, including an understanding of "what a move away from the traditional defence-orientated approach means in reality".

Natural Resources Wales' reporting under Section 18 of the Flood and Water Management Act 2010

Section 18 of the Act requires NRW to report to Welsh Ministers on its activities and progress against the National Strategy. To date, two reports have been prepared, the most [recent being for the period 2014-2016](#). This states that £116 million of FCERM investment between April 2014 and March 2016 has reduced flood risk to over 5000 Welsh homes and business, in addition to critical infrastructure. It emphasises that future approaches to risk management need to look beyond traditional approaches, with greater consideration to be given to nature-based solutions and green infrastructure.

9. Further Information

- Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management.
- Natural Resources Wales' Flood Risk Mapping and Warning System
- Flood Awareness Wales