

Quick guide

Flood Protection

September 2011

Introduction

There are **three types of flooding**: Coastal or tidal flooding, river flooding and surface water flooding through excess rainfall.¹ **Damage resulting from flooding is irregular.** People and private property, as well as public amenities including hospitals, schools, emergency services and transport infrastructure require protection by flood defences.²

In the UK, nearly **2 million properties are sited on floodplains** and are at risk of coastal or river flooding, whilst **80 thousand are at risk from 'intra-urban' flooding** when rain waters overwhelm the drainage system.³ In England and Wales, **more than 4 million people live in at risk areas** and the **value of the property at risk is £200 billion.**⁴ **In Wales, about 357,000 properties, roughly 1 in 6 buildings, are at risk of flooding.**⁵ Of these properties, 220,000 are at risk of river or coastal flooding and 137,000 are at risk of surface water flooding.⁶

Flood protection is a devolved issue; the Welsh Government is responsible for developing flood and coastal risk management policy in Wales.⁷

What is the Cost of Flood Defences?

In Wales, the damage caused by flooding is estimated at £200 million per year, with the damages expected to rise from £70 million in 2004 to over £1,200 million in 2080.⁸ In May and June 2007, extreme rainfall led to widespread flooding in England and Wales, causing £3.2 billion in damage.⁹

In the UK, the **total expenditure per year on flooding is £2.2 billion**, £800 million in preventative measures against flooding such as sea defences, and £1,400 million repairing

¹ Welsh Government, *Environment Protection and Quality*, [Water and flooding](#) (Website) [accessed 17 June 2011]

² King, D., 2004. Foresight Future Flooding. Report by the Flood and Coastal Defence project of the Foresight programme. Office of Science and Technology.

³ *ibid.*

⁴ *ibid.*

⁵ Welsh Government, *Environment Protection and Quality*, [Flooding](#) (Website) [accessed 17 June 2011]

⁶ *ibid.*

⁷ *ibid.*

⁸ ROP p65, 9 December 2009

⁹ [House of Commons Library Key Issues publication 2010](#)

the damage it causes.¹⁰ The Welsh Government funds flood and coastal projects in Wales.¹¹ **In 2009-10, £22 million was allocated to reducing flood and coastal erosion risks.**¹² In June 2011, the Minister for Environment and Sustainable Development announced that £26 million had been provided by the Welsh Government to the Environment Agency for flood protection measures and the alleviation of flood risk this financial year.¹³

Since 1997, the UK Government has increased spending on flood protection by more than double, however an increasing amount of money is required to maintain the current flood protection levels.¹⁴ ¹⁵ To retain the current levels to 2035, the House of Commons Library estimate that **spending on construction and asset maintenance in England and Wales would have to increase by 80 per cent to more than £1 billion every year**; however, this investment would save approximately £180 billion over the next 100 years.¹⁶ In February 2011, the previous Environment Minister Jane Davidson said:¹⁷

...as the climate changes and sea level rises, flood and coastal erosion risk is set to increase significantly over time. That is why Welsh Assembly Government is leading a major change in the way we manage flood and erosion risk to address this. We will have to adapt to increased flood and erosion risk by employing a wide range of measures such as improving warnings and community resilience and how we plan for coastal change.

The Flood and Water Management Act 2010

The *Flood and Water Management Act (2010)* came into force on 8 April 2010 and aims to **alter the way water is dealt with** in order to adapt to increasing pressures on these resources.¹⁸ As a result of climate change, the **occurrences of coastal erosion, as well as extreme weather events such as flooding and drought, are predicted to increase**. To counter this, the *Flood and Water Management Act (2010)* will:¹⁹

- provide better, more sustainable flood and coastal erosion risk management measures;
- protect against rises in drainage charges; and
- protect water supplies.

The *Flood and Water Management Act (2010)* requires that the Environment Agency must generate a *National Flood and Coastal Erosion Risk Management Strategy* for England and

¹⁰ King, D., 2004. Foresight Future Flooding. Report by the Flood and Coastal Defence project of the Foresight programme. Office of Science and Technology.

¹¹ Welsh Government, *Environment Protection and Quality, Flooding* (Website) [accessed 17 June 2011]

¹² Welsh Assembly Government, *Central Wales News Centre, dated 18 March 2009, £17 million of European funding given to flood and coastal defences in Wales* (Website) [accessed 26 November 2009]

¹³ RoP p6, 29 June 2011

¹⁴ The UK Low Carbon Transition Plan

¹⁵ [House of Commons Library Key Issues publication 2010](#)

¹⁶ *ibid.*

¹⁷ Welsh Government, *News, Environment and Countryside, West Rhyf* (Website) [accessed 20 June 2011]

¹⁸ Welsh Government, *Environment Protection and Quality, Flooding, Flood Water Bill* (Website) [accessed 20 June 2011]

¹⁹ *ibid.*

Wales which certain organisations will have to obey.²⁰ The overarching National Strategy will then require Local Authorities to create local flood risk management strategies.²¹ The *National Flood and Coastal Erosion Risk Management Strategy* for England has been published this year. The *National Flood and Coastal Erosion Risk Management Strategy* for Wales is currently being produced by the Welsh Government.²²

Flood and Coastal Erosion Risk Strategy for Wales

The Welsh Government is introducing a **National Strategy for Flood and Coastal Erosion Risk Management in Wales**, to set out policies and establish a delivery framework.²³ The consultation period occurred over the summer of 2010 and ended on 8 October 2010.²⁴ According to the *Flood and Water Management Act (2010)*, the National Strategy must include information on:²⁵

- the risk management authorities in Wales;
- their flood and coastal erosion risk management functions;
- the objectives for managing flood and coastal erosion risk;
- the measures to achieve them;
- how and when the measures are to be implemented;
- their costs and benefits, and how they are to be paid for;
- the assessment of flood and coastal erosion risk for the strategy;
- how and when the strategy is to be reviewed;
- the current and predicted impact of climate change on flood and coastal erosion risk management; and
- how the strategy will help achieve wider environmental objectives.

The Environment Agency has since undertaken a *Strategic Environmental Assessment* and *Habitats Regulations Assessment* based on the proposals made by the consultation document.²⁶ The **National Strategy is expected to be published in the summer of 2011**, and the Environment Agency will then give a yearly report on the progress. Local authorities will need to design locally tailored strategies to implement the national objectives.²⁷ The National strategy will **outline information on the risks associated with flooding, investment and the risk management authorities and their responsibilities**.²⁸

²⁰ [*Flood and Water Management Bill 2009-10*](#) (Website) [accessed 27 June 2011]

²¹ *ibid.*

²² Environment Agency, [*National Flood and Coastal Erosion Risk Management Strategy*](#) (Website) [accessed 27 June 2011]

²³ Welsh Government, *Consultations, Environment and Countryside*, [*Flood Strategy*](#) (Website) [accessed 20 June 2011]

²⁴ Welsh Government, *Environment Protection and Quality, Flooding*, [*Strategy*](#) (Website) [accessed 20 June 2011]

²⁵ *ibid.*

²⁶ *ibid.*

²⁷ *ibid.*

²⁸ Welsh Government, *Environment Protection and Quality, Flooding*, [*Strategy*](#) (Website) [accessed 20 June 2011]

The EU Flood Directive

The *Flood Directive* (2007/60/EC) came into force in the EU in November 2007, to **assess and manage flood risks in Europe**. As part of the *Directive*, which applies to both inland and coastal waters, Member States are required to draw up a series of documents:²⁹

- preliminary flood risk assessments by 22 December 2011;
- flood hazard maps and flood risk maps by 22 December 2013; and
- flood risk management plans by 22 December 2015.

As **two of the three river basin districts in Wales are also partly in England** (the Dee and Severn river basin districts), in order to comply with the *Flood Directive*, **any flood risk plan for Wales must be developed alongside the English ones**.³⁰ The *Water Framework Directive* (2000/60/EC) has been UK law since 2003; this *Directive* promotes water management via river basin planning and is the basis for water environment changes made in Wales.^{31 32}

The Environment Agency

The Environment Agency is the principal flood risk management operating authority in England and Wales and receives funding from Welsh Government and DEFRA. It was established by the Environment Act 1995, taking over the flood risk management responsibilities of the then National Rivers Authority.

The Environment Agency has the responsibility of **increasing flood risk awareness, forecasting and warning prior to flooding events, building and maintaining flood defences and controlling capital project grants**. The Environment Agency Wales is an Assembly Government Sponsored Body (AGSB) within the Environment Agency. It has responsibility for managing the environment in Wales and reports back to the Welsh Government.³³

Flooding and Planning Policy

Technical Advice Note (TAN) 15: Development and Flood Risk (2004) provides the technical guidance to national planning policy set out in *Planning Policy Wales* (PPW) with reference to development and flooding.³⁴ PPW outlines a precautionary framework for the guidance of planning decisions and aims to **advise caution for the creation of new developments in areas where the risk of flooding is high**. Instead it aims to **direct development away**

²⁹ Welsh Government, *Environment Protection and Quality, Flooding*, [EU Directive](#) (Website) [accessed 17 June 2011]

³⁰ *ibid.*

³¹ European Commission, *Environment*, [Water Framework Directive](#) (Website) [accessed 20 June 2011]

³² Welsh Government, *Environment Protection and Quality, Water Framework*, [Directive](#) (Website) [accessed 17 June 2011]

³³ Environment Agency, *Regions, Wales*, [Environment Agency Wales](#) (Website) [accessed 27 June 2011]

³⁴ Welsh Government, *Planning, Policy, TANS*, [TAN 15](#) (Website) [accessed 20 June 2011]

from high risk areas, to areas where the risk of flooding is low.³⁵

TAN 15 includes Development Advice Maps that define three development advice zones as follows:

- Zone A: Considered to be at little or no risk of fluvial or tidal/coastal flooding.
- Zone B: Areas known to have been flooded in the past evidenced by sedimentary deposits.
- Zone C: Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal) (ie: greater than 1 in 1,000 chance of flooding in any one year).

Zone C is divided into C1 and C2.

- C1 is areas of the floodplain which are developed and served by significant infrastructure, including flood defences.
- C2 is Areas of the floodplain without significant flood defence infrastructure.

Development proposals in Zone A do not require any further assessment of flood risk. For development proposals in Zone B flood risk should usually be considered further.

For development proposals in Zone C, a flood consequences assessment is required. In Zone C1 development can take place subject to a satisfactory assessment. In Zone C2 only less vulnerable forms of development should even be considered.³⁶

In their inquiry into Flooding in Wales in February 2010, the **Sustainability Committee of the Third Assembly recommended that TAN 15 be redrafted** so that it is explicitly stated that building on areas where the flood risk is high should not occur except in exceptional circumstances.³⁷

This recommendation was rejected by the then Minister for Environment, Sustainability and Housing, Jane Davidson on the grounds that TAN 15 already identified where developments should and should not be built in a sufficiently detailed manner and that since its introduction, the TAN has significantly increased the level of knowledge and understanding of flood risk, suggesting that the **proposed alterations to the TAN were unnecessary.**³⁸

Convergence Programme Funding for Flood Risk

Convergence is the **highest level of structural funding** support awarded from the European Union.³⁹ An area in Wales covering **15 local authorities in West Wales and the**

³⁵ Planning Policy Wales, *Technical Advice Note 15: DEVELOPMENT AND FLOOD RISK*, July 2004.

³⁶ Planning Policy Wales, *Technical Advice Note 15: DEVELOPMENT AND FLOOD RISK*, July 2004.

³⁷ National Assembly for Wales, Sustainability Committee, *Inquiry into Flooding in Wales*, February 2010

³⁸ Davidson, J., 2010. **Welsh Assembly Government Written Response to the Sustainability Committee's Report on their 'Inquiry into Flooding in Wales'**.

³⁹ Welsh European Funding Office, *Programmes, Convergence Programmes* (Website) [accessed 20 June 2011]

Valleys has been awarded Convergence funding to deal with flooding.⁴⁰ Funding is provided by two European Structural Funds: the **European Regional Development Fund (ERDF)** and the **European Social Fund (ESF)**. In March 2009, the previous Minister for Environment, Sustainability and Housing announced that **£17 million from Convergence support** would be invested into home and business protection measures, along with **£22 million from the Welsh Government**. The aim of the programme is to reduce flood risks for 2,000 people over 6 years between 2007 and 2013.^{41 42}

There are now fifteen projects in the Convergence area, addressing flood risk over three broad areas: defence building, raising awareness and increasing resilience to flooding.⁴³

Further information

For further information on aspects of flood protection, please contact **Katherine Daniels** (Katherine.Daniels@Wales.gov.uk) or **Nia Seaton** (Nia.Seaton@Wales.gov.uk), Research Service.

For further information on the topics below, double click on the links.

- Welsh Government Website on [Water and Flooding](#)
- Welsh Government Website on [Flood and Coastal Risk Management on Wales](#)
- Environment Agency Website on [Flooding](#)
- Environment Agency Website on the [National Flood and Coastal Erosion Risk Management Strategy](#)
- European Commission Website on [Water](#)
- Welsh European Funding Office Website on [Convergence Programmes](#)
- [Coastal Erosion and Sea Level Rise](#) Quick Guide

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⁴⁰ Welsh Government, *Environment Protection and Quality, Flooding, [Convergence](#) (Website)* [accessed 17 June 2011]

⁴¹ *ibid.*

⁴² Welsh European Funding Office, *Programmes, [Convergence Programmes](#) (Website)* [accessed 20 June 2011]

⁴³ Welsh Government, *Environment Protection and Quality, Flooding, [Convergence](#) (Website)* [accessed 17 June 2011]