Lancashire and Blackpool Local Flood Risk Management Strategy

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Draft for Consultation

Blackpool Council

Lancashire County Council

Lancashire Local Flood Risk Management Strategy
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Executive Summary

This Lancashire and Blackpool Flood Management Strategy has been jointly produced by Lancashire County Council and Blackpool Council to show how we intend to manage the risk from local sources of flooding initially over the next 3 years and with revised editions every 6 years. Local sources of flooding are those from ordinary watercourses (small streams and channels), pluvial (surface water runoff as a result of heavy rainfall) and groundwater (where water held beneath the ground reaches the surface).

Water does not follow administrative boundaries. During a flood event water flows where it wants to and natural catchments can channel water from one council's area to another. Blackpool Council and Lancashire County Council share a border with each other and there are several catchments that flow from Blackpool's administrative area into Lancashire and vice versa.

It is also important to note that this does not just apply to the Lancashire and Blackpool administrative areas. Lancashire and Blackpool can be affected by water from catchments outside of both of our administrative boundaries and water from our catchments areas can affect other areas. It is therefore important that information is shared beyond administrative boundaries.

We also have a good relationship in terms of the wider Flood Risk Management roles we have as Lead Local Flood Authorities. Our close proximity to each other means that in many instances we work together to manage developments, wider strategic infrastructure and issues such as flooding and water quality. Due to the cross border nature of flooding and the on-going relationship we have, there are many benefits in working closely with each other to manage local flood risks and a decision was made to produce a joint document, the Lancashire and Blackpool Local Flood Risk Management Strategy (the 'Local Strategy'). This strategy ensures a catchment based approach and promotes effective partnership working as advised by the principles laid out in the Environment Agency's National Strategy.

This Local Strategy is an important policy document because it is the first one that we have produced following the introduction of the Flood and Water Management Act (2010). The Act places a number of legal duties and responsibilities on county and unitary authorities, which are now defined as Lead Local Flood Authorities.

Whilst some of these duties and responsibilities are existing, many of them are new and require us to develop new approaches, systems and policies. This document explains how we intend to develop these. However, we realise that in order to successfully manage local flood risks we will need to work closely with other organisations responsible for managing flood risk from other sources of flooding such as the Environment Agency (main rivers and the sea) and Water Companies (sewers).

We will also have to work with Local Planning Authorities within Lancashire to ensure that new development is safe from the effects of flooding and does not increase the risk of flooding. Finally, we will have to work closely with the community as a whole as we will not be able to prevent all future flooding. No matter how much planning and work we do, there will still be a risk of flooding and communities will need to be involved in what we do and guide our approach.

Within this Local Strategy we explain the nature of local flood risk across Lancashire, who is responsible for managing the various types of flooding and how we intend to meet our obligations. Throughout the document we present a number of 'strategic objectives' that explain what we are aiming to achieve. In support of these we also include specific 'measures' which show how we intend to achieve our objectives. Finally, these are presented as an 'Action Plan' which states how and when we will deliver and implement these measures.

As this is a draft document, you are in a position to influence our Action Plan and we hope you will take this opportunity to influence flood risk management activities in your area.

Contents

1 Introduction

This section of the report explains why we have written the Lancashire Flood Risk Management Strategy and what we hope it will achieve.

1.1 Background

The wide-scale flooding that occurred in the summer of 2007 caused devastation across large areas of northern and central England and south Wales.

It is estimated that the flooding affected 55,000 homes and business and that nearly £3 billion of insured losses occurred. It was estimated that two thirds of these properties were flooded, not from rivers or from the sea, but from surface water flooding resulting from intense rainfall[1].

The flooding exposed significant gaps in the way that flood risk was assessed and managed by the Environment Agency, Local Authorities and Water Companies.

Figure 1.1 Flooding in 2007

Following this flood event, the government appointed Sir Michael Pitt to undertake a full independent investigation into the flooding that occurred. This included a review into the role of the organisations involved in the management of flood risk.

The report, 'Lessons Learnt from the 2007 Floods,' (also known as the Pitt Review) made a number of recommended changes to the way we manage flood risk in England. These recommendations included a greater role for Local Authorities, particularly in managing flood risk from local sources (see Box 1.1).

Box 1.1 Local Sources of Flooding

Pluvial flooding – which happens when natural and man-made drainage systems have insufficient capacity to deal with surface water run off arising from heavy rainfall.

Groundwater flooding – which occurs when heavy or prolonged rainfall makes the level of water underground rise above its natural surface

Flooding from Ordinary Watercourses – happens as a result of water overflowing from small streams, brooks and ditches channels

1.2 The Flood and Water Management Act

The Flood and Water Management Act 2010 (FWMA) has put many of the recommendations made in the Pitt Review into legislation and as a result County Councils and Unitary Authorities have been designated as Lead Local Flood Authorities (LLFAs).

The FWMA places a range of new powers, duties and responsibilities on the LLFAs and their partner Flood Risk Management Authorities (RMAs). The table presented in

Appendix A provides an overview of the roles and responsibilities of the RMAs.

Many of the LLFA's duties are new and have not been undertaken by any organisation before. Others may have been undertaken by different bodies in some areas, but are now the responsibility of the LLFA.

1.3 The Local Flood Risk Management Strategy

In order to establish who should be doing what, and when and how these responsibilities will be undertaken, the FWMA places a legal duty on each LLFA to produce a Local Flood Risk Management Strategy (a 'Local Strategy'). The Local Strategy creates a framework around which flood risk management will be undertaken by the LLFA. It has to be compliant with the Environment Agency's National Flood Risk Management Strategy (the 'National Strategy'[2]).

The National Strategy sets out the following six guiding principles for how flood risk management decisions should be made, these are:

- **Community focus and partnership working:** The responsible authorities should work in partnership with communities to help them understand, prepare for and have a direct involvement in decision-making and risk management actions. Cooperative working should also extend across authority boundaries.
- **A catchment-based approach:** This is key to managing risks at source and achieving wider benefits through more integrated water management. Activities must seek to avoid passing risk on to others within the catchment.
- **Sustainability:** Flood risk management solutions should be forward-looking and adaptable to climate change. They should also work with natural processes where possible and enhance the environment.
- **Proportionate, risk-based approaches:** It is not technically, economically or environmentally feasible to prevent flooding altogether. A risk-based management approach targets resources to those areas where they have greatest effect.
- **Multiple benefits:** As well as reducing the risks to people and property, flood risk management can bring economic, environmental and social benefits. It is important that communities are able to shape risk management actions to take account of local priorities.
- **Beneficiaries should be encouraged to invest in risk management:** Overall, there is the opportunity for significantly more risk management activity to take place if alternative sources of funding can be secured in each area to reflect the local benefits that would be delivered.

1 Pitt, M. (2008) 'Learning Lessons from the 2007 Floods', The Pitt Review

2 http://www.environment-agency.gov.uk/research/policy/130073.aspx

This Lancashire and Blackpool Local Strategy will be developed in conjunction with the Local Planning Authorities (LPAs), and may be suitable in the future to serve as Supplementary Planning Guidance (SPG).

In developing and delivering this Local Strategy we have also given consideration to the different communities within Lancashire, for example by considering different methods of communication as appropriate and by integrating economic, social and environmental improvements with the delivery of flood risk management objectives.

1.4 A Joint Local Strategy

This Lancashire and Blackpool Local Strategy has been written to meet the guiding principles as set out in the National Strategy.

With this in mind, Blackpool Council and Lancashire County Council have made the decision to develop a joint Local Strategy that covers both areas.

The reasons that we have developed the Local Strategy together are:

- Blackpool borders Lancashire and we share many of the same catchments. Therefore, decisions that are made in Blackpool can affect flood risk in Lancashire and vice versa. This is in agreement with the guiding principle of the National Strategy to have a catchment based approach.
- Planning decisions are often made in conjunction with each other, particularly for major developments that sit on the border of both councils. This helps ensure that partnership working is a fundamental aspect of our strategic decision-making.
- We sit on many of the same flood risk management and coastal partnerships that exist in the North West. We can therefore present a consistent strategy to other Stakeholders in the region.

Because we are working together closely on the Local Strategy, 'Lancashire' will be used to describe both the area covered by Lancashire County Council and Blackpool Council.

It is useful to note that Blackburn with Darwen BC (BwDBC) has previously produced a LFRMS independently however watercourses arising in BwDBC's area could have an effect on the Local Planning Authority (LPA) areas covered by this strategy.

1.5 Other Sources of Flooding

This Local Strategy has been written primarily to address local sources of flooding as described in Box 1.1.

However, there are many other potential sources of flooding within Lancashire. For example there are extensive areas that are known to be at risk of flooding from the Sea and Main Rivers. There are also areas which are at risk from sewer flooding and others which could be affected by a reservoir breach.

The organisations involved in the management of these risks are discussed in more detail in Section 2, but it is important to understand that flooding does not happen in isolation. When a flood occurs it often happens from multiple sources at the same time.

It is therefore essential that flood risk is managed in a joined-up way and wider flood risks are taken into account when considering potential actions.

Figure 1.2 Main River Flooding

1.6 Our Vision for Local Flood Risk Management

The likelihood and consequences of flooding can be minimised (but not eliminated) through the involvement of a number of responsible organisations and communities and through a mix of proactive and reactive approaches to risk management.

One of the key aims of this Strategy is to improve local flood risk management in a sustainable way. In other words, the risk of flooding must be reduced now, but in a way which does not compromise the interconnected needs of the economy, society and environment in the future. Our overarching vision for local flood risk management has guided the development of the Local Strategy and is shown in Box 1.2.

Box 1.2 The Lancashire Vision for Management of Local Flood Risk

Use viable, sustainable and coordinated approaches to better manage the risk of local flooding, for the benefit of people, property and the environment, both now and in the future.

1.7 Objectives and Measures of the Strategy

Guidance available on the Local Strategy states that it should contain the objectives for managing local flood risk and the measures proposed to achieve those objectives. Objectives are what we want to achieve (our goals). Measures are the way we hope to achieve them (our actions).

Within this document we present a number of objectives and measures related to our flood risk management responsibilities. The 19 objectives have been divided into 5 key themes:

- Roles and Responsibilities
- Understanding Risk
- Funding
- Communication and Involvement
- Sustainable Flood Risk Management

The objectives have been carefully chosen to meet the requirements of the FWMA and to follow the core principles set out in the National Strategy. An overview of the objectives is presented in figure 1.3 and there is more detail on each of these throughout the strategy. They also recognise and support relevant aims and objectives set out in the National Adaptation Programme (Defra, July 2013) which seeks to make the country more resilient to a changing climate.

Section 12 of this strategy provides more detail on how each of these objectives will be delivered and measures are presented as specific actions that we are committed to delivering in the short, medium or long term.

1.8 Structure of this Document

This document has been set out in the following way:

- Section 1 - we have given an overview of the Local Strategy and what we hope to achieve.
- Section 2 - explains who is involved in managing flood risk from local sources.
- Section 3 - describes local flood risks across Lancashire.
- Section 4 - states how we will be managing local flood risks at specific locations through the development of a flood risk management plan.
- Section 5 - contains information on the roles different organisations have in emergency planning and what local communities can do.
- Section 6 - explains how we aim to influence the spatial planning process and how we will be ensuring Sustainable Drainage Systems (SuDS) are included in new developments.
- Section 7 - has information on our proposed approach to communication and engagement with others.
- Section 8 - gives information on the management of assets that have a flood risk management function.
- Section 9 - states how we intend to resource and fund local flood risk management.
- Section 10 - provides an overview of the relevant environmental legislation relevant to the Local Strategy and how we will integrate sustainability into local flood risk management.
- Section 11 - explains locally important issues that we wish to address as part of the Local Strategy.
- Section 12 -draws the Local Strategy together into a comprehensive ‘Action Plan’ and explains how we will monitor our progress over time.

Roles and Responsibilities

- RR1 Identify RMAs and define each RMA's roles and responsibilities in relation to managing risk from all sources of flooding
- RR2 Allow RMAs to make efficient decisions on flood risk management and exploit opportunities effectively
- RR3 Give risk management authorities powers to undertake flood related works
- RR4 Ensure alignment of local Flood Risk Management and Emergency Planning functions

Understanding Risk

- UR1 Understand key local flood risks
- UR2 Work together with other RMAs to investigate and manage interactions between Main River, coastal flooding and local flood risks
- UR3 Record, investigate and report flooding incidents
- UR4 Take account of climate change when fulfilling duties and responsibilities in flood risk management

Funding

- F1 Define the approach to, and opportunities for, resourcing and funding local flood risk management activities
- F2 Encourage beneficiaries to invest in local flood risk management

Communication and Involvement

- C&I1 Deliver flood risk management through effective partnership working
- C&I2 Establish effective data sharing agreements
- C&I3 Encourage stakeholder and community involvement in flood risk management

Sustainable Flood Risk Management

- SFRM1 Integrate economic, social and environmental improvements with local flood risk management in line with sustainability principles
- SFRM2 Manage development so that it reduces flood risk
- SFRM3 Promote the use of SuDS
- SFRM4 Encourage innovation in local flood risk management
- SFRM5 Set out an asset management plan
- SFRM6 work with the owners of assets with a flood risk management function

Figure 1.3 The Local Strategy Objectives by Key Themes

2. Roles and Responsibilities for Managing Flood Risk

An important part of the Local Strategy, and requirement of the FWMA, is the identification of who is responsible for managing the different types of flooding. In this section of the document we highlight the roles of the different Flood Risk Management Authorities (RMAs) within Lancashire.

2.1 Introduction

As discussed in the introduction in Section 1, Blackpool Council (BC) and Lancashire County Council (LCC) are LLFAs and are responsible for the management of local flood risks, which are defined as pluvial flooding, groundwater flooding and flooding from Ordinary Watercourses.

There are however, a number of other sources of flooding and these are primarily managed by other bodies. These bodies are known as Risk Management Authorities (RMAs). The other RMAs in Lancashire are:

- The Environment Agency
- Water companies and Sewerage undertakers – United Utilities and Yorkshire Water
- The Highways Authority (also Blackpool Council and Lancashire County Council)
- Earby and Salterforth Internal Drainage Board
- The District Councils

More information on what our role as LLFAs entails and on the role RMAs take is provided in Section 2.1.2. Box 2.1 also presents a summary of these roles and responsibilities. Appendix A contains contact details for the RMAs.

Box 2.1 Summary of RMA Responsibilities

Environment Agency - manages flood risk from Main Rivers and the Sea and has strategic overview role for local sources of flooding and reservoirs

Water Companies - manage flood risk from sewers and water transfer infrastructure

Highways Authorities - manage roads to ensure that flooding does not represent a nuisance to road users

District Councils - Currently perform a range of functions relating to flood risk management. District councils have retained their powers to undertake works on ordinary watercourses and have powers to designated structures and features that affect flooding or coastal erosion

Internal Drainage Boards - IDBs are independent public bodies responsible for managing water levels in low-lying areas

2.1 The Lead Local Flood Authority

2.1.1 Existing Duties and Responsibilities

Both authorities undertook activities related to managing flood risk prior to the introduction of the Flood and Water Management Act 2010 (FWMA). For example, both authorities are local highway authorities with responsibility for routine maintenance of highway drainage and emergency works when flooding occurs.

Both are also responsible for assessing planning applications relating to highways, minerals and waste and educational facilities. Responsibility for these areas continue.

Lancashire County Council and Blackpool Council also have existing duties in relation to the Civil Contingency Act 2004 and play a lead role in emergency planning and recovery after a flood event, a responsibility which is discussed further in Section 5.

2.1.2 New Duties and Responsibilities

With the introduction of the FWMA, the LLFAs must now provide a number of additional duties and have new powers and further responsibilities. These are summarised below:

- Produce a Local Flood Risk Management Strategy - which we are doing through this document.
- Investigate significant local flooding incidents and publish the results of such investigations. This is discussed further in Section 4.6.
- Maintain a register of assets of physical features that have a significant effect on flooding in their area. How we will be doing this discussed further in Section 8.
- Ordinary watercourse consenting which requires consent to be issued for altering, removing or replacing certain structures or features on ordinary watercourses. How we will be doing this is discussed further in Section 6.
- Establish a SuDS Approving Body (SAB) for the design, building and operation of Sustainable Drainage Systems (SuDS). Section 6 contains further information on this.

2.2 The Environment Agency

With its national role, the Environment Agency has a strategic overview of all sources of flooding and coastal erosion (as defined in the FWMA).

It is also responsible for flood and coastal erosion risk management activities on main rivers and the coast, regulating reservoir safety, and working in partnership with the Met Office to provide flood forecasts and warnings. It must also look for opportunities to maintain and improve the environment for people and wildlife while carrying out all of its duties[3].

The Environment Agency's work includes:

- Developing long-term approaches to Flood and Coastal Erosion Risk Management (FCERM). This includes working with others to prepare and carry out sustainable Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMPs). CFMPs address flood risk in each river catchment. SMPs assess the risks of coastal flooding and erosion and propose ways to manage them. The Environment Agency also collates and reviews assessments, maps and plans for local flood risk management (normally undertaken by lead local flood authorities (LLFAs)).
- Providing evidence and advice to support others. This includes national flood and coastal erosion risk information, data and tools to help other risk management authorities and inform Government policy, and advice on planning and development issues.
- Working with others to share knowledge and the best ways of working. This includes work to develop FCERM skills and resources.
- Monitoring and reporting on flood and coastal erosion risk management. This includes reporting on how the national FCERM strategy is having an impact across the country.
- Planning liaison including advising and commenting on planning applications within their remit.

3 http://www.local.gov.uk/local-flood-risk-management

2.3 Water companies

Water companies are responsible for the management of flood risk from sewers and maintain a register of properties that have flooded due to hydraulic incapacity of the sewerage network.

As the sewerage providers serving Lancashire, United Utilities and Yorkshire Water are responsible for providing, improving, extending and maintaining a system of public sewers and works for the purpose of effectively draining the area. Water companies are now also responsible for private sewers and lateral drains which communicate with the public sewers.

The water companies also manage flood risk from their water supply infrastructure such as water mains and reservoirs (see Box 2.2 for more information on reservoirs[4]).

As a result of the FWMA, water companies must have regard to this local flood risk management strategy and act in a manner which is consistent with the EA National Strategy. Their cooperation with the LLFAs may include investigating floods, when considered appropriate, and water companies must comply with any request from the LLFA's overview and scrutiny committees.

Box 2.2 Reservoirs

UU manages the largest reservoirs in the North West and has done so successfully for a number of years under the requirements of the Reservoirs Act 1975.

'This means that any of the 17 other reservoir owners in Lancashire and Blackpool have similar responsibilities'

The new responsibilities includes flood mapping and emergency planning.

Figure 2.1 Calf Hey Reservoir, West Pennine Moors

2.4 The Highways Authorities

Highways authorities (the Highways Agency and unitary/county councils) have the lead responsibility for providing and managing highway drainage and roadside ditches under the Highways Act 1980.

The owners of land adjoining a highway also have a common-law duty to maintain ditches to prevent them causing a nuisance to road users. This includes flooding.

To manage these risks as set out in the national strategy, highways authorities will need to work effectively with the Environment Agency, LLFAs and district councils to ensure their flood management activities are well coordinated.

4 https://www.gov.uk/flood-risk-management-information-for-flood-risk-management-authorities-asset-owners-and-local-authorities

2.5 Earby and Salterforth Internal Drainage Board.

Internal Drainage Boards (IDBs) have an important role to play in flood risk management, and in creating and managing natural habitats. IDBs are made up of elected members who represent land occupiers, and others nominated by local authorities who represent the public and other interest groups. Each IDB operates within a defined area, known as a drainage district. In Lancashire there is one IDB - The Earby and Salterforth IDB.

IDBs are independent public bodies responsible for managing water levels in low-lying areas. They are the land drainage authority within their districts and their functions include supervising land drainage and flood defence works on ordinary watercourses. This is primarily funded by drainage rates and levies from land occupiers and local authorities. By doing this, they closely manage water levels, both in watercourses and underground (groundwater), by improving and maintaining ordinary watercourses, drainage channels and pumping stations to reduce the risk of flooding.

They are able to involve local people, encourage volunteering and raise funds from those who benefit from their work. The Earby and Salterforth IDB also covers the upper reaches of the River Aire, the main catchment of which is in Yorkshire.

2.6 The District Councils

Currently some of the capacity, capability and staff resource (especially with experience and knowledge of land drainage and flooding) is located within other RMAs at District and Borough Councils.

These organisations currently perform a significant amount of work relating to flood risk management, and this is likely to continue into the future as these local authorities work closely with the LLFAs and other RMAs:

- Burnley Borough Council
- Chorley Council
- Fylde Borough Council
- Hyndburn Borough Council
- Lancaster City Council
- Pendle Borough Council
- Preston City Council
- Ribble Valley Borough Council
- Rossendale Borough Council
- South Ribble Borough Council
- West Lancashire Borough Council
- Wyre Borough Council

2.6.1 Coastal Protection Authorities

Coastal Protection Authorities work alongside the Environment Agency to develop and maintain coastal flood and erosion risk information. This contributes to national information maintained by the Environment Agency and promotes understanding of these risks. This enables them to be taken into account in planning how to protect and manage the coast. Coast Protection Authorities manage flood risk from the sea under the Coast Protection Act 1949. The Coastal Protection Authorities in Lancashire are:

- Blackpool Council
- Lancaster City Council
- Fylde Borough Council
- Wyre Borough Council
- West Lancashire Borough Council
- Preston City Council
- South Ribble Borough Council

2.7 Other Organisations that Have a Role

In addition to the main RMAs there a number of other bodies that are involved in flood risk management. They do not have a direct role, but their activities have an important contribution. These are:

- English Heritage
- Highways Agency
- Lancashire Resilience Forum (LRF)
- National Farmers Union
- National Trust
- Natural England
- Network Rail
- Parish and Town Councils
- Canal and River Trust (North West Waterways)
- Lune River Trust, Ribble River Trust, River Irwell Trust
- National Flood Forum

2.8 Partnership Working

The way we communicate with our partner RMAs and the other organisations is a vital part of managing flood risk and part of our strategic leadership role. In order to do this we are involved with a number of partnership groups that meet regularly. An overview of the groups we are involved in shown in Figure 2.2.

North West Regional Flood and Coastal Committee
Regional governance and funding decisions

- The North West RFCC is responsible for reviewing flood defences in the Region and for determining how the defences will be managed in years to come. It is a committee established by the Environment Agency under the FWMA which brings together members appointed by the LLFAs and independent members with relevant experience for three purposes:
  - to ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risks across catchments and shorelines
  - to promote efficient, targeted and risk-based investment in flood and coastal erosion risk management that optimises value for money and benefits for local communities
  - to provide a link between the Environment Agency, LLFAs, other risk management authorities, and other relevant bodies to encourage mutual understanding of flood and coastal erosion risks in its area

The Lancashire Strategic Partnership Group
Strategic planning and co-ordination between RMAs

- These meetings are attended by elected members and senior representatives from the RMAs in Lancashire. The group meets to discuss the strategic direction of flood risk management in Lancashire and any wide spread flooding events which affect more than one local authority area. They also agree the Lancashire priorities to be taken to the RFCC meeting.
- The RFCC has a North West wide membership and the Lancashire Strategic Partnership Group is tasked with ensuring that the flooding issues which are important to Lancashire are well represented at a North West level.

Partnership Management Group
Technical and operational meetings to address specifc issues across Lancashire

- The Partnership Management Group is attended by technical and operational lead officers from the Environment Agency, Water Companies and all of the local authorities, (including a representative from Lancashire County Council, the twelve borough councils in the LCC administrative area and both Blackburn With Darwen and Blackpool). This group will address priority flooding incidents, co-ordinate delivery, share skills and establish priorities for joint working.

Making Space for Water Meetings
Operational meetings to address issues at the district and borough level

- There is a Making Space for Water Meeting in each of Lancashire's 12 borough council areas and the two unitary authority areas. The meetings are attended by those officers from the Environment Agency, Water Companies and both Lancashire County Council and the borough council who have specific local knowledge about flooding incidents. The meetings are used to identify local flood hotspots and discuss potential solutions. They also enable partners to identify larger schemes which can be put forward into the bidding process for funding opportunities

Figure 2.2 Local Flood Risk Management Groups in Lancashire

2.8.1 Our Strategic Objectives for Roles and Responsibilities

In order to help us deliver our obligations under the FWMA and other relevant legislation, we have a number of specific objectives and measures that have been developed for this Local Strategy and these will form a key part of our Action Plan. They are as follows:

Strategic Objective: Identify RMAs and define each RMA's roles and responsibilities in relation to managing risk from all sources of flooding (RR1)

Short Term (Within 1 year)

- **Memorandum of Understanding (MoU) to agree responsibilities:** Internal consultation between RMAs to agree responsibilities, leading to signed memoranda of understanding which includes any delegation of responsibilities. It will be important to define which RMA(s) will lead on flood risk management in the identified zones of flood source interaction.
- **Define scrutiny process:** Define how flood risk management actions will be scrutinised, and when the process will be applied to local authorities, the Environment Agency and the Water Companies.
- **Define processes for Ordinary Watercourse consenting and enforcement of drainage responsibilities:** Define and promote the LLFA's approach to consenting on Ordinary Watercourses and enforcement of drainage activities.
- **Determine feasibility of a single flood reporting contact:** Undertake a feasibility study into creating a single point of call for flooding of any source in Lancashire.

Medium Term (Within 1 to 3 years)

- **Develop a programme to review relevant council procedures:** Identify which existing procedures - both those already related to flood risk, and also those which should be – updated and define a review programme.
- **Review roles and responsibilities:** Review of roles and responsibilities initially in 3 years' time, with subsequent reviews every six years to fit in with revisions to the Preliminary Flood Risk Assessment.

Stragegic Objective: Deliver floor risk management through effective partnership working (C&I 1)

Short Term (Within 1 year)

- **Map RMA expectations:** Understand each Risk Management Authorities key objectives and expectations. Use these to guide works towards delivering benefits for each Partner.
- **Review membership of groups:** Review the strategic and operational groups which Partners currently contribute to, to determine whether they continue to provide benefit.

Medium Term (Within 1 to 3 years)

- **Build strong partnerships:** Seek opportunities for Partnership site visits to key schemes or risk areas, and secondments to build mutual understanding and foster closer working.
- **Develop stronger links with organisations who can assist with prediction and warnings of surface water and groundwater flooding:** Communicate with the Met Office regarding rainfall predictions and warnings, work with the EA and others on groundwater flood alerts to improve understanding of what other organisations can and cannot deliver.

Strategic Objective: Establish effective data sharing agreements (C&I 2)

Short Term (Within 1 year)

- **Agree data sharing protocols:** Develop data sharing protocols between RMAs which are signed and set out the general tone of expectations, rather than replace existing licence agreements. The protocols should specify how the powers to request information will be used as a last resort if required.

3 Local Flood Risk within Lancashire

In this section of the strategy we describe the level of flood risk across Lancashire from local sources and how it varies across the area.

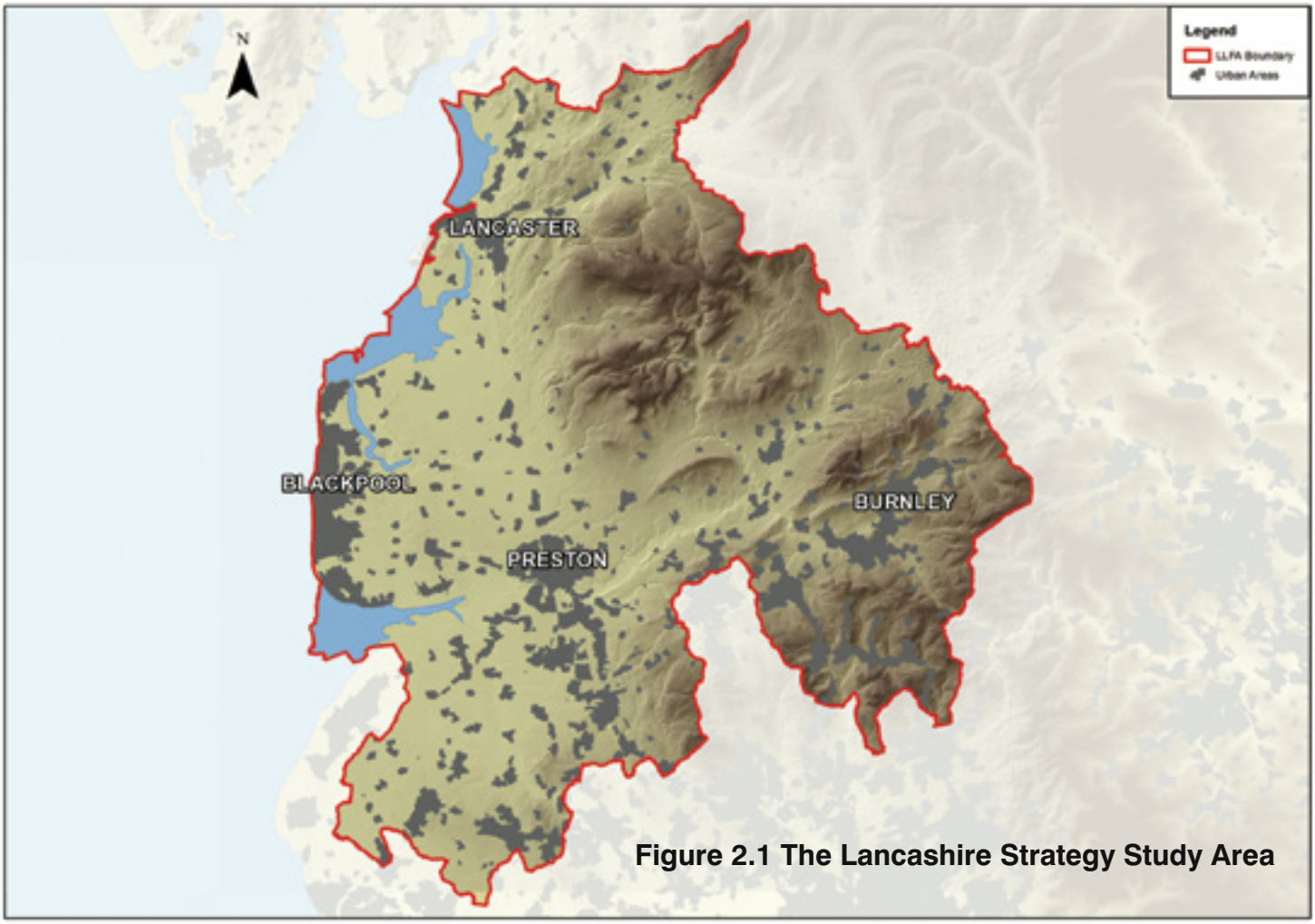

Figure 2.1 The Lancashire Strategy Study Area

3.1 Introduction

Lancashire has experienced historical incidents of flooding in the past and has also suffered the consequences of flooding several times in recent years. Some recent notable events are listed in Box 3.1. These events have resulted in flooding of homes, businesses, agricultural land as well as roads, railways and public services.

22nd & 23rd June 2012

- A band of heavy rainfall began in the south of the region and moved steadily north through the day.
- Rainfall totals of 100mm were recorded across much of Lancashire with a period of particularly intense rain across East Lancashire.
- River levels responded rapidly to the heavy rainfall, and record river levels were reached on the upper River Irwell in the Bacup and Rawtenstall areas.
- The most severe flooding occurred in Croston (72 properties), Whalley (18 properties), Leyland (15 properties) and various parts of Rossendale (127 properties).

24th September 2012

- Heavy persistent rain resulted in 80% of the average monthly rainfall falling on Monday 24th into Tuesday 25th September.
- The most severe property flooding occurred in West Lancashire (20 properties) largely caused by excess surface water, green field run off, and ordinary watercourse culvert surcharges, all resulting from exceptionally intense and localised rainfall.
- Property flooding also occurred in other locations, on a lesser scale, in parts of Wyre. 12 properties in Hambleton were flooded due to flow from the highway drainage and sewer networks, and 7 properties in Preesall suffered flooding as a result of excess discharges to a culvert.
- Extensive field flooding was also reported in Fylde, Wyre and West Lancashire.

Other recent notable flooding incidents

- Torrential rain in December 2012 caused flooding of roads and damage to highway infrastructure in East Lancashire.
- In September 2012, roads in Croston, Chorley and Morecombe were affected by flooding and a caravan park in Fleetwood evacuated.
- Flooding on the West Coast Main Line in September 2011, as well as on the M6 and other major roads, caused travel disruption.
- Heavy rain in August 2011 caused flooding of roads and properties in the village of Ribchester.
- Breaching of an Ordinary Watercourse caused flooding of agricultural land near Ormskirk in February 2011.

Prior to these, flooding has been recorded across the county, with clusters of notable incidents in Lancaster/Morecambe, Blackpool, Preston and Bacup/Rawtenstall in Rossendale.

Figure 3.1 Flooding in Waterfoot, Rossendale[5]

3.2 Existing Local Flood Risks

As past events demonstrate, Lancashire is at risk of flooding. However, the risks and mechanisms of flooding vary across the region.

In broad terms, Lancashire is divided in two by the M6 motorway, with steeper upland catchments in the east, where flooding can occur rapidly and be more localised, and flatter lowland catchments in the west.

3.2.1 Local Flood Risk in the West of Lancashire

In the low lying areas to the west, the risk of flooding is predominately linked to the capacity of the drainage networks, including piped networks in urban areas and open drainage ditches in both urban and rural areas.

In many locations there is a complex relationship between drainage systems, open watercourses and the sea. Consequently, it is not always easy to identify the exact source of flooding. Indeed, flooding is frequently as a result of the interaction of a number of sources.

In the lowest areas near the coast, sea-level has a large influence on flooding. High tides and storm surges can increase water levels in channels and cause drainage systems to stop discharging to the sea. In comparison to the upland areas, flooding in low lying flat land can be more predictable, when it is associated with high tides. When this occurs, localised flooding frequently results. If sea water is involved in the flood event, the impact can be more severe than 'cleaner' freshwater flooding in upland area, especially if agricultural land is affected.

In order to reduce the level of risk, there are a number of pumping stations throughout the lowland areas, particularly near the coast, where pumping is needed to ensure that water will discharge when sea levels are high. The extensive network of drainage ditches and pumping stations requires a considerable effort to maintain. If pumps fail, sizeable areas could flood, including urban and rural locations.

New development in low-lying areas has to be carefully managed as many of the drainage ditches and pumping stations are operating at or near full capacity. A small increase in the volume of flows or a change in the drainage regime could lead to a large increase in flood risk.

3.2.2 Local Flood Risk in the East of Lancashire

In the eastern uplands, flooding from local sources is predominantly as a result of intense rainfall events that cause surface water runoff and flooding from

watercourses. The warning times for such events can be short and the entire flood event can be over within a matter of minutes. Such flood events are often termed 'flash flooding'. The extent of flooding is typically constrained to main flow paths and flat floodplain areas next to the watercourse. In these areas, water can be relatively deep and fast flowing which can pose a significant hazard to people and property.

The risk in many areas in the east has been exacerbated by development associated with the Industrial Revolution of the 18th and 19th Century. The mill buildings constructed during this time required water for industrial processes and in the early period flowing water was a source of energy. Consequently, mills and housing for employees, were built in close proximity to watercourses. This means that, today, there is a legacy of property located in high risk areas even though many of the mill buildings are no longer there or are used for other purposes.

In areas where mills were constructed, highly modified channels and culverts are common. Many of these were built over 100 years ago and as a result there are structures essential for the transfer of water that are in poor condition. Blockage and collapse of culverts and walls is a significant flood risk in some places.

As industry has moved on from many of these areas, there are places where re-development is on-going or planned. This has the potential to increase flood risk by replacing less vulnerable industrial mill buildings with more vulnerable residential and retail buildings. However, if done correctly there is a good opportunity to improve the flood resilience and sustainability of these areas.

3.3 Flood Risk by Local Authority

In order to understand local flood risk in more detail we have undertaken a number of studies to support the Local Strategy.

These studies are aimed at achieving a high-level of understanding around the main areas of risk across the region so that risk monitoring, further studies and works to reduce flood risk can be prioritised. More information is contained within Section 4 of this document.

However, further detail on the risk across the county, is shown in Figure 3.2 by local authority. An indicative breakdown of the numbers of properties at risk, also by local authority area, is given in Figure 3.3 and Figure 3.4. This work is based on a Preliminary Flood Risk Assessment (PFRA) undertaken in response to the Flood Risk Regulations 2009[6].

The highest concentrations of local flood risk are predicted in the urban areas of Accrington, Bacup, Blackpool, Burnley – Colne, Chorley, Clitheroe, Lancaster, Ormskirk, Preston and Skelmersdale.

However, this Strategy recognises that flood management must not only be focused in the areas with the largest number of people or properties at risk but should also consider risk to the rural economy.

It is also important to remember that people in Lancashire can be affected by water from catchments outside of the administrative boundary.

5 http://www.aboutmyarea.co.uk/Lancashire/Rossendale/BB4/News/Local-News/225366-Torrential-Rain-Causes-Flooding-Across-Rossendale

6 For the PFRA, LCC, Blackpool and Blackburn with Darwen Councils produced a joint report. No significant flood risk areas (as defined for the PFRA process) were found in Lancashire so no further actions are required under the Flood Risk Regulations until the PFRA is updated in six years.

Lancaster:
A sizeable proportion of the District is at risk of flooding from sources including tidal, fluvial, local sources and the sewer network. The Lancaster Canal poses a risk of flooding. Many major towns and villages are adjacent to the coast or River Lune and its tributaries. Tidal, and then fluvial, flooding has had the greatest consequences in the recent past. There are several reservoirs in the district which pose a medium risk of flooding.

Wyre:
Key areas of the District are at high risk of tidal and fluvial flooding, with high tidal and fluvial levels impeding discharge of smaller watercourses and drainage systems. Flash flooding from ordinary watercourses occurs in the east of the District, with surface water and sewer flooding dominating towards the southern border with Blackpool. The Lancaster Canal poses a potential flood risk and there are several reservoirs in the district which pose a medium risk of flooding.

Blackpool:
Although generally low lying, the District is protected from coastal erosion and flooding by concrete coastal defences. Most of the watercourses draining the District outfall to the public sewer netowrk. The majority are cuvlerted and defined as ordinary watercourses. The main causes of flooding across the District is the inadequate capacity or failure of combined and separate sewer systems. Particularly low lying land to the south east relies on pumped drainage which can be overwhelmed or fail and lead to flooding.

Fylde:
The District is dominated by lowland agricultural land use, with the primary sources of flooding being fluvial and surface water runoff following high rainfall. The coastal area has only a residual risk of tidal flooding but discharge of rivers and drainage infrastructure from land behind the defences can be difficult due to the shallow gradients. Combined sewer flooding has been a particular issue near the coastal boundary with Blackpool. Reservoirs both within and outside the District pose a medium risk of flooding.

West Lancashire:
The District is naturally low lying floodplain, although much of the land (which is predominantly used for agriculture) is protected to a standard by raised tidal and fluvial defences. A network of pumping stations acts to remove ponding water, particularly following high rainfall. Past flooding has been caused by asset failure, as well as inadequate capacity of culverts and drainage infrastructure. The Leeds and Liverpool Canal and several reservoirs outside the area to the south, pose a medium risk of flooding.

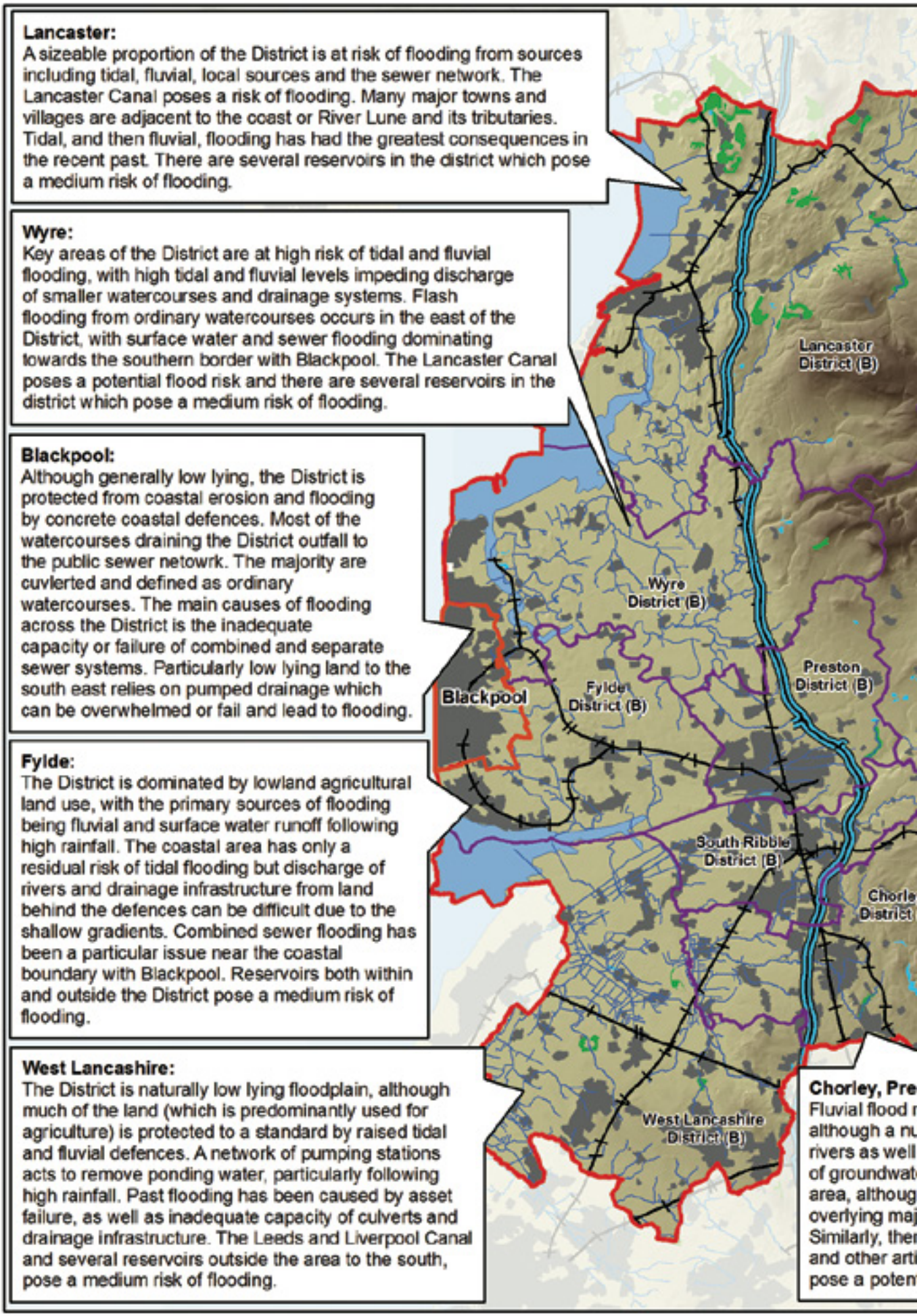

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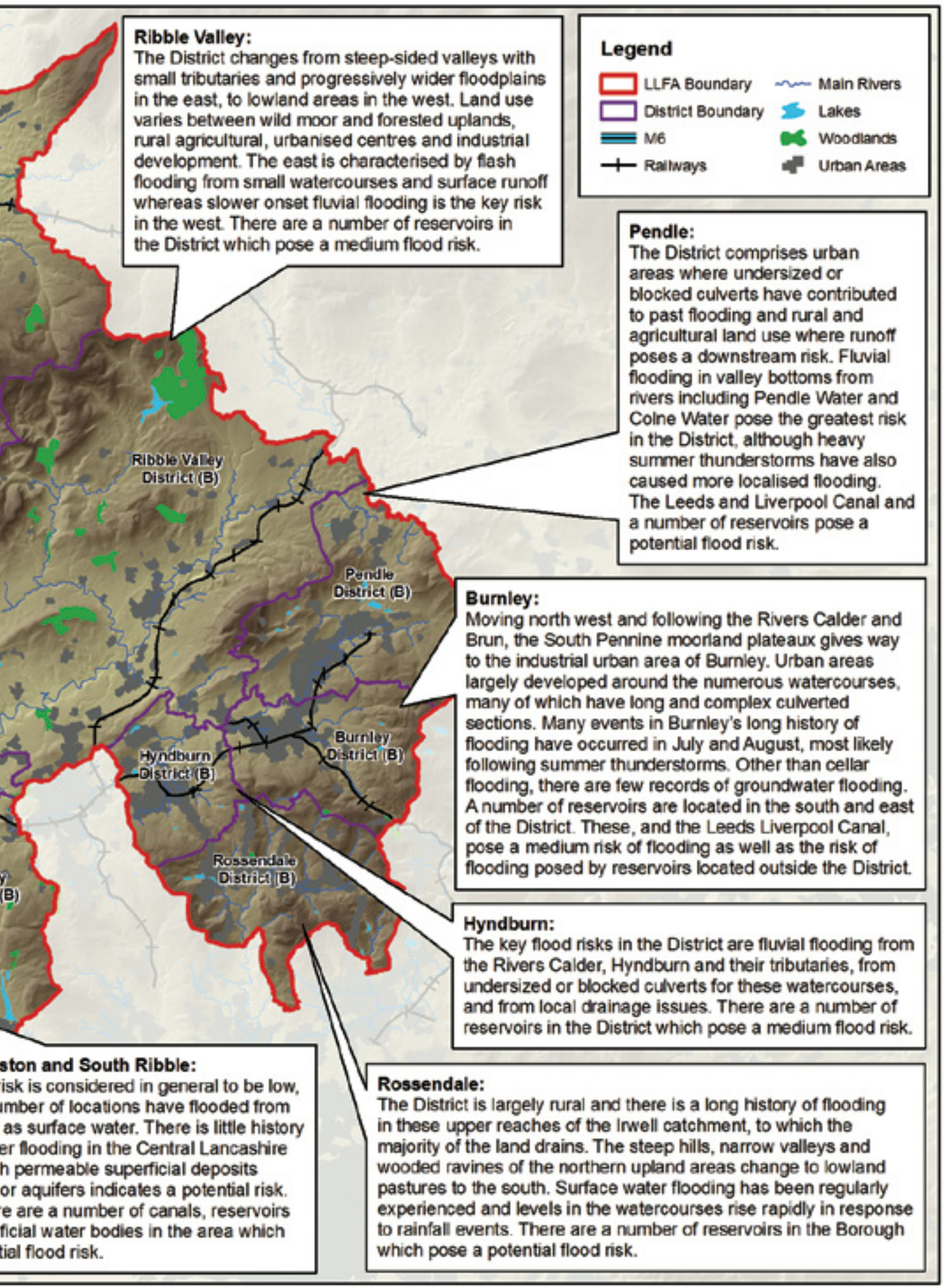
Figure 3.2 Local Flood Risk across Lancashire



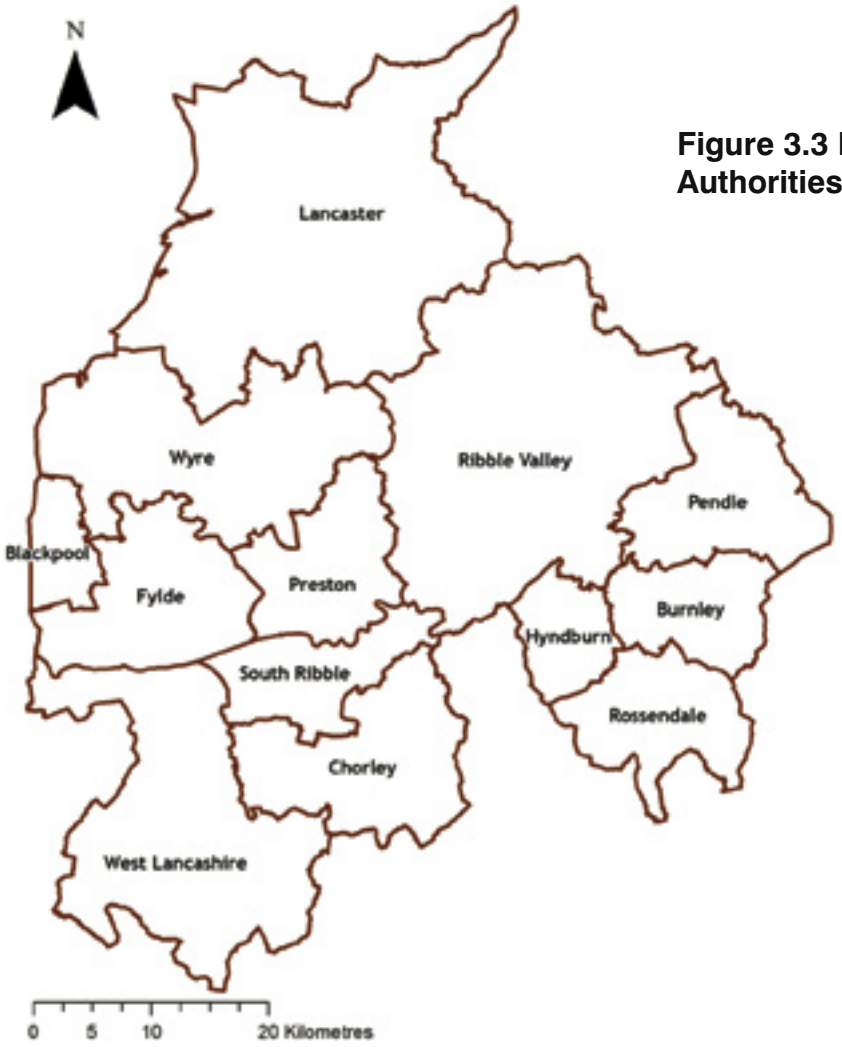


Figure 3.3 Map showing the Local Authorities in Lancashire

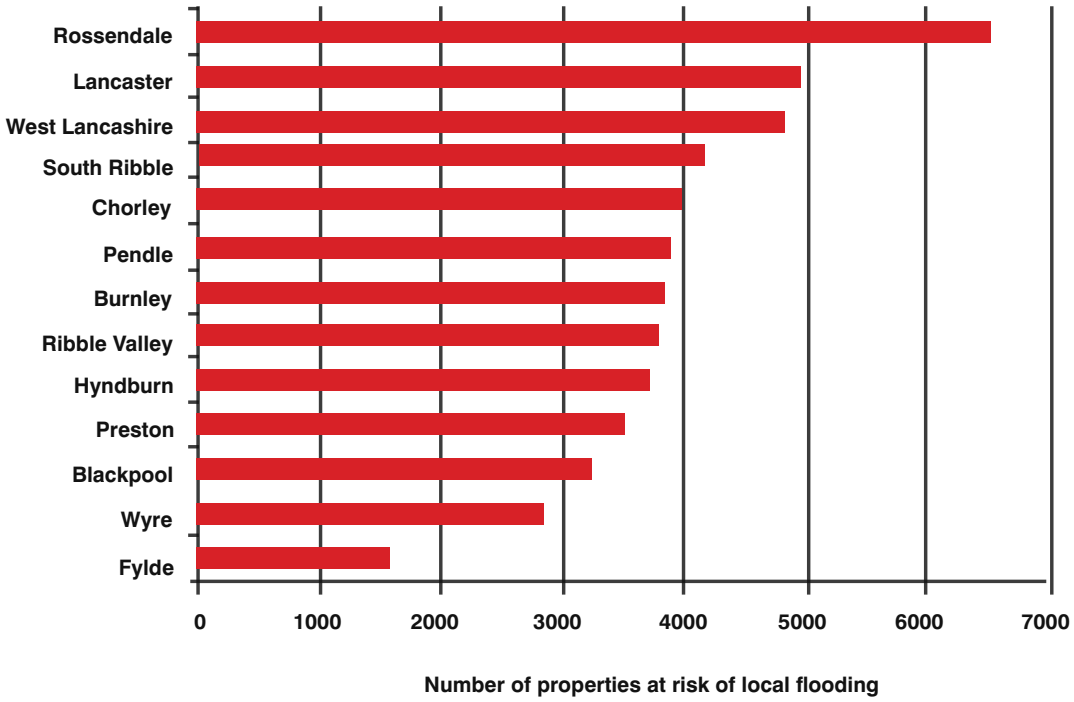


Figure 3.4 Graph showing the number of properties at risk from local (see box 2.1) flooding sources by Local Authority

3.4 Future Risk from Local Sources of Flooding

Our understanding of the risk posed by local flooding is based on evidence of floods which have happened in the past and model predictions of which areas may be susceptible to flooding now or in the future. There are a number of changes that could affect our understanding of risk. These are discussed further below.

3.4.1 Climate Change

The fourth IPCC Assessment[7] reported rising global sea levels, losses from glaciers and ice caps, reduced winter snow cover in the Northern Hemisphere, shifting rainfall patterns, increased humidity and increasing incidences of extreme temperature and precipitation events. Despite much controversy, the consensus in the academic community is that the climate is changing as a result of human influence: approximately 95% of published climatologists say this is "extremely likely[8]". As a result of this and other work, the UK Government has instigated a range of policies to address the issue, including the Climate Change Act 2008 and Defra's Climate Adaptation Programme[9].

Already, we are experiencing trends in our weather patterns which are consistent with changes predicted by global climate models. These broadly state that, for the UK, we will experience warmer and wetter winters, hotter and drier summers, sea level rise and more severe weather. For example, the average temperature in central England has risen by about 1°C since the 1970s, all regions of the UK have experienced an increase in the amount of winter rain that falls in heavy downpours and sea levels around the UK have risen by about 1mm a year over the 20th century[10].

Seasonal rainfall is variable and some of the changes may reflect natural variation. However, past emissions of greenhouse gasses mean some climate change is inevitable in the next 20-30 years, although action now could reduce the amount of change we experience.

If emissions follow a medium future scenario, UK Climate Projections (UKCP09) projected changes in Lancashire by the 2050s relative to the recent past are:

- Winter precipitation increases of around 14%
- Precipitation on the wettest day in winter will be up by around 11%
- Relative sea level at Morecambe is highly likely to be increased by between 6 and 36cm from 1990 levels
- Peak river flows in a typical catchment are likely to increase between 11 and 18%

Wetter winters and more rain falling in wet spells may increase river flooding especially in steep, rapidly responding catchments. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers.

7 http://www.ipcc.ch/index.htm. Next assessment due 2013-14.

8 IPCC Fourth Assessment and UK Climate Change Risk Assessment: Government Report, January 2012.

9 The national adaptation programme - making the county more resilient to a changing climate DeFRA, July 2013. www.gov.uk/government/... data/.../pb13942-nap-20130701.pdf

10 Defra (2009) Adapting to climate change. UK Climate Projections. June 2009

Rising sea levels, tidal storm surges and/or higher river levels may also increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses.

The impact of increasing flood risk is reflected in increasing economic damages which have been widely reported in recent years. In 2004 the Association of British Insurers stated that insurance claims from storm and flood damages in the UK doubled to £6 billion over the period 1998-2003 and that this could further triple by 2050.

It is estimated that the probability of fluvial and tidal flooding in Britain could increase by between 2 and 20 times by 2080, increasing annual flood damages from £1 billion to £21 billion and doubling the number of people living in areas at risk from flooding[11]. An update to the Foresight Future Flooding Report in 2008 stated that future risk from what we term here local flooding may rise to be of the same order as fluvial and coastal flood risk.

In short, the risk of loss of life, the impacts to people, the costs of damage and long-term damage to the communities and economies of Lancashire could increase in the future unless appropriate action is taken now, including serious consideration to 'climate adaption'.

3.4.2 Urban Growth and Development

There is likely to be significant variation in the changing nature of flooding between rural and urban areas; urban areas could potentially suffer increased flood risk due to growing levels of urbanisation if this is accompanied by increased areas of impermeable surfaces which reduce the potential for land to attenuate surface water runoff.

This impact of development and how we intend to control it is discussed in more detail in Section 6.

3.5 Our Strategic Objectives for Managing Climate Change

As part of the development of our Local Strategy, we have made the management of climate change one of our specific strategic objectives. The objective states:

Strategic Objective: Take account of climate change when fulfilling duties and responsibilities in flood risk management (UR4)

In order to achieve this objective we have identified specific actions or measures that we take. These are:

11 King and Walker (2008) The hot topic, how to tackle global warming and still keep the lights on.

Short Term (Within 1 year)

- **Embed climate change into local flood risk management:** Ensure climate change impacts are taken into account when designing any scheme and developing or reviewing flood risk management policies and practice.
- **Ensure flood risk is incorporated as fully as possible into planning and development proposals:** Provide flood risk officers with the information necessary to influence the planning system.

Medium Term (Within 1 to 3 years)

- **Promote adaptive practices:** Promote adaptive practices in flood risk management e.g. rainwater harvesting, water sensitive urban design and lobby local authorities to lead by example in their wider activities and property portfolio.

4. Our Local Flood Risk Management Plan

This Local Strategy is the overarching document which states how we will be implementing the various duties and responsibilities required of us a result of the FWMA. Central to our role is the management of flood risk at specific locations across Lancashire. In this Section we explain how we will do this via our Local Flood Risk Management Plan.

4.1 Introduction

As shown in Section 3, there are significant areas known or believed to be at high risk of flooding from local sources. There are a wide number of works, schemes, investigations and studies required to address these risks. Works and schemes are aimed at reducing flood risks where specific problems have been identified. They may, for example, include replacing an undersized culvert or building a flood embankment.

Investigations and studies are aimed at understanding the level of risk in more detail, particularly the likelihood and consequences of flooding. They can cover larger areas such as towns and regions or specific areas too. Works and schemes may follow as a result of their findings.

A careful balance is needed between works and schemes and investigations and studies. Works and schemes are how we address known problems or where we have a high confidence that there is a risk of flooding. However, we know from experience that there are likely to be numerous areas that we don't yet know about where flooding will occur if a storm event occurs. Some of these areas could present an even higher risk than the known areas, particularly if they could affect vulnerable people or critical infrastructure such as hospitals. Therefore, it is essential that we undertake such studies, so that works and schemes can be put in place before a flood happens. Each district already has a local Multi Agency Flood Plan in place which covers strategic co-ordinated responses from emergency services during major flood events however our Flood Risk Management Plan is more detailed. Figure 4.1 gives an overview of how the different types of studies and schemes are related to each other. They are described in more detail in the following sub-sections.

It is also important to note that the focus of our studies is to reduce the impact of flooding. Therefore, at every level of investigation we will identify actions that can be implemented in the short term or at low cost. In this way we aim to ensure that even our strategic level investigations can result in concrete actions that reduce flood risk to people and property, either through engaging with the public, improving emergency planning or 'easy wins'. These are described further in Box 4.1.

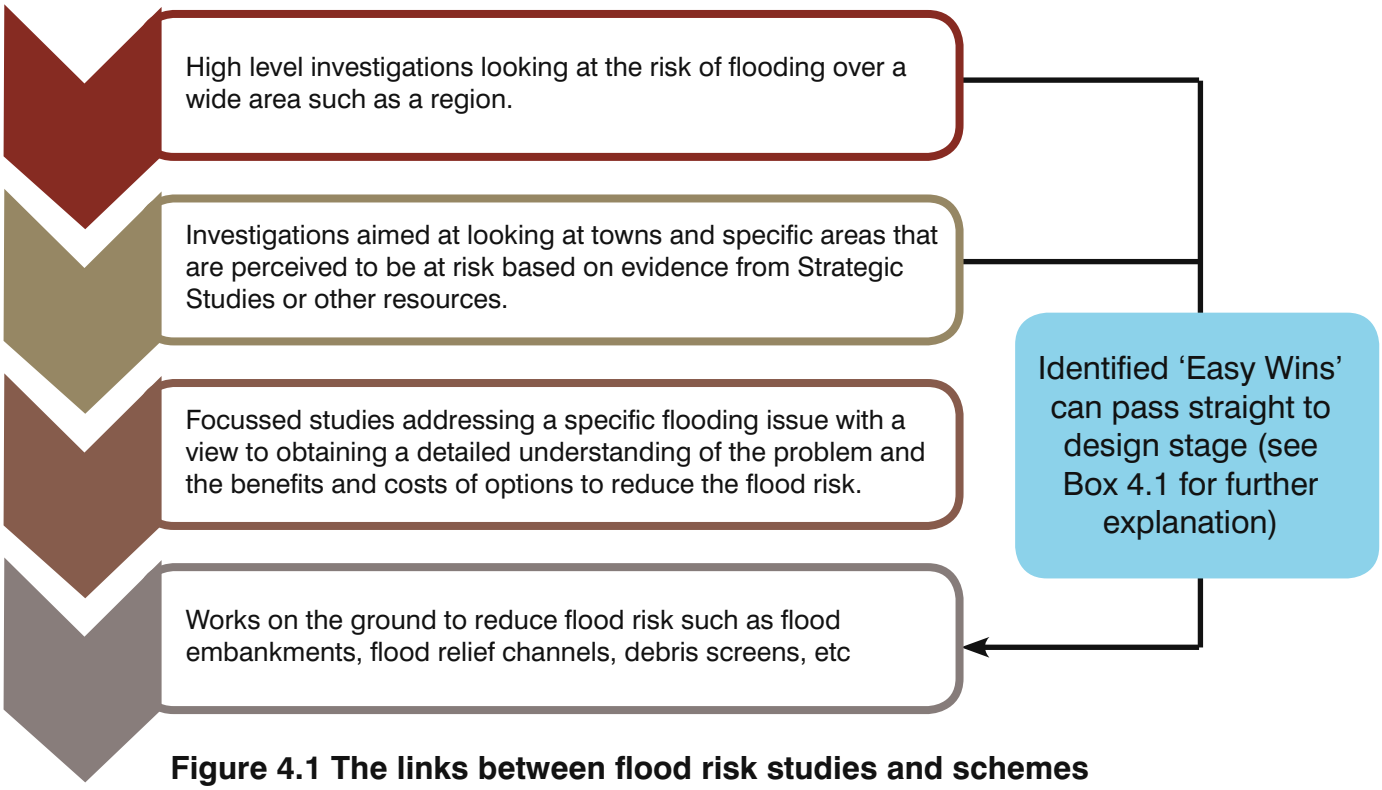


Figure 4.1 The links between flood risk studies and schemes

Box 4.1 'Easy Wins'
'Easy Wins' are specific actions and schemes that could significantly reduce the risk of flooding to a number of properties, simply and at a low cost.

An example could be the installation of a new drain or a raised kerb to deflect water away from a group of houses.

Because these are 'Easy Wins' we aim to progress these as soon as possible.

This means that in many instances we may not be able to state the precise benefit to cost ratio or the standard of protection offered by these schemes.

However, as they will clearly reduce flood risk we will still progress them.

4.2 Prioritising Our Actions

Given the size of Lancashire, the extent of local flood risk and our limited budgets, it is not practical to attempt to implement all the required works or studies across the whole of Lancashire in the short-term.
It is therefore necessary to prioritise the potential actions and target resources towards the most significant risks and where interventions can offer the best value for money.

It is important that this prioritisation remains flexible to account for emerging opportunities and local and wider priorities. A schematic of how studies and schemes will be prioritised is shown above in Figure 4.1.

Information on past flooding and future risk has been continually improving since the LLFA's commenced their roles in 2010. A detailed assessment of benefits and costs can be undertaken in later stages, but at this strategic scale only a broad assessment of priority is possible.

4.3 Strategic Level Investigations & SWMPs

As part of the development of this Strategy we have recently completed a number of Surface Water Management Plans (SWMPs). These plans are a model to show where floods are likely to occur in high risk areas. SWMPs are the Defra recommended way of managing local flood risks and they present a method of how these studies should be progressed. An overview of the SWMP process is shown in the 'Defra Wheel'[12] in figure 4.2.

We have already carried out the initial strategic part of the SWMP investigations, a process that has involved data gathering, analysis of flow paths and preliminary site visits to over 300 locations. Consequently, we now have a high-level knowledge of the key risk areas in Lancashire.

Figure 4.2 The 'Defra Wheel' that forms the basis of SWMPs

12 Defra, (March 2010),Surface Water Management Plan Technical Guidance

We are using the knowledge from SWMPs to formulate the detailed Flood Risk Management Plan for Lancashire.

We have also successfully applied for funding from Defra/Environment Agency to carry out more detailed investigations in key risk areas where the initial phases of the SWMP process has identified a particularly high risk of flooding.

Studies are currently on-going and include areas in Preston, Blackpool, Pendle, Burnley, Rawtenstall, Haslingden and Stacksteads.

4.4 Flood Risk Management Studies by Others

In addition to the studies that we undertake, other RMAs carry out their own investigations. Details on these are as follows.

4.4.1 Environment Agency Studies

- River Basin Management Plans
- Coastal Flood Management Plans
- Strategic Appraisal Reports
- Project Appraisal Reports

4.4.2 Water Companies

- Strategic plans and investigations based upon high risk areas.

4.4.3 Coastal Protection Authorities & the Environment Agency

- Shoreline Management Plans
- Complete Strategic Appraisal Reports and Project Appraisal Reports

4.5 Interactions

One of the key findings of the SWMPs, which is supported by the Environment Agency's studies, is that in many locations there are strong interactions between local sources of flooding and other sources of flooding such as main rives and the sea.

This means that there will be instances where no single RMA can solve a known flooding problem. We are therefore reliant on partnership arrangements to tackle these problems. It is our aim to identify these areas proactively and engage with our partners as early as possible.

4.6 Flood Investigations

Section 19 of the FWMA requires that, where appropriate, LLFAs investigate and report on flooding incidents that occur in its area. The aim of the investigation is to identify which of the RMAs have a role in managing the flooding and to ensure that this role is being carried out effectively.

The investigations that we undertake are anticipated to greatly improve our understanding of flood risk. It is likely that flooding will happen in locations that have not previously been affected or where other studies have not identified a particularly high risk. In such instances, the flood investigations will be an invaluable tool for understanding the sources and mechanisms of flooding. Follow on works and studies are likely to be necessary in some instances and these will be integrated into our prioritised flood risk management plan.

Flood investigations will also help us identify assets that have a flood risk management function which may need to be designated (see Section 8).

The requirement to undertake an investigation is based upon locally important criteria and it is up to the LLFA to decide when an investigation is necessary or appropriate. With this in mind, we are currently using a risk based approach to undertaking investigations.
An investigation is triggered based upon on the likelihood and consequence of flooding. Where the consequences of flooding are high, for example if a flood event occurred which affected internal property and there was evidence this could occur frequently, we would investigate this as a high priority. However, if the flooding event did not affect an internal property, for example a path or a garden, and this was deemed to be a low frequency event, a flood investigation would be a low priority and may not be undertaken at all.
We intend to formalise the conditions that would trigger such an investigation in the future. This will be carried out with key stakeholders due to the wider implications of this decision.

4.7 Strategic Flood Risk Management Planning Objectives and Measures

The objectives and measures that we are committed to which are relevant to this section of the Local Strategy are described below.

Strategic Objective: Understand key local flood risks (UR1)

Short Term (Within 1 year)

- **Develop flood incident reporting database:** Develop and maintain a GIS-based database of reported flood incidents where surface water, groundwater or Ordinary Watercourses may be involved, which can be linked to the asset register. The database must hold personal information in a secure way and arrangements for use and any sharing of the information must be clearly defined. Define arrangements for populating this database with information from all RMAs and from any flood investigations undertaken. Communicate with the public how data they report will be securely stored, used and the benefits to them of this process.
- **Record drainage engineer experience:** Record information on past flooding in map and/or written formats based on extensive experience of LLFA and district drainage engineers and other experts so this information is preserved.
- **Maintain awareness of latest risk mapping tools:** Maintain awareness of latest mapping available from the EA and actively participate in projects to improve this national mapping. Use best available mapping and knowledge of works undertaken to annually review prioritisation of flood risk areas.
- **Create a Local Flood Risk Management Plan:** Create Management Plan which states how local flood risk will be managed over the short medium and long term, and how schemes and studies will be prioritised across Lancashire.
- **Undertake a Pilot Ordinary Watercourse Study:** Conduct an investigation into the level of flood risk from Ordinary Watercourses in a high risk area.

Medium Term (Within 1 to 3 years)

- **Undertake detailed SWMPs:** Commission Surface Water Management Plans or similar drainage studies in priority areas to improve local understanding and derive site-specific actions.

Strategic Objective: Work together with other RMAs to investigate and manage interactions between Main River, coastal flooding, sewer flooding and local flood risks (UR2)

Short Term (Within 1 year)

- **Map zones of flood source interaction:** Produce an updatable map, based on the latest flood mapping for the various sources, which can be used to highlight zones of likely interaction and focus for joint working.
- **Share information about planned FRM works and schemes:** Effective communication of flood risk management activities so that partners can identify opportunities for joint delivery and partnership working. For example, this could include stronger links with the EA to ensure mapping is consistent.

Strategic Objective: Record, investigate and report flooding incidents (UR3)

Short Term (Within 1 year)

- **Agree criteria for undertaking flood investigations:** Set criteria for when, how and by whom Section 19 flood investigations will be undertaken. Agree this procedure with other RMAs, possibly through signed Memoranda of Understanding.

5. Emergency Planning

Emergency Planning is an important part of flood risk management and involves a number of organisations. There are actions that the LLFA, our partners, and the public can do which can help with this process. In this Section we will explain the roles that the different organisations have, what the public can do to help themselves and what we are doing to help improve Emergency Planning for local flooding and providing support for others.

5.1 Introduction

As part of this Local Strategy we discuss a number of ways in which we intend to manage the risk of local flooding. The actions we will undertake include schemes and investigations to minimise the chance of a flood occurring and we also intend to influence the spatial planning and development process so that high risk is avoided in the first place.

However, even the best planning or engineering solutions have limitations, given that our weather is uncertain (especially with climate change) and there may be a flood event that is larger, or has different characteristics, than could be planned for. Therefore, managing risk must also include plans to react to floods and work swiftly to minimise the consequences to people, property, business, land and the environment.

5.2 Who Does What?

The Civil Contingencies Act 2004 (CCA) requires Category One and Category Two responders to form a Local Resilience Forum (LRF)[13] LRFs bring together Category 1 and 2 responders within a local police area for the purpose of cooperation in fulfilling their duties under the Civil Contingencies Act. There are also a number of LRF sub-groups that will cover specific subjects such as severe weather and flooding.

The CCA defines LCC, BC, the District Authorities, the emergency services, the EA and other organisations as Category 1 responders who will be at the core of the emergency response of any flooding emergency.

Category 2 responders include utility companies and transport operators who are less likely to be involved in the heart of planning work but will be heavily involved in incidents that affect their sector.

The key roles and responsibilities for responders during and after an emergency are presented in Sections 6.1.1 to 6.1.4 . Additionally the LRF Flooding & Severe Weather Group (with membership from category One and Two organisations) produces a Multi-Agency Flood Plan. This consists of Part 1 which contains the trigger levels, notification cascades and general county-wide information and each district has a Part 2 which details the local arrangements for responding to flood events from any source in their area.

It is important to note that the scale of response by each organisation is proportionate to the scale of the emergency. These responsibilities are not influenced by the source of flooding and remain unchanged by the FWMA and this Strategy.

5.2.1 The Local Authority

The local authorities, including the county, Blackpool and district authorities, have the following roles and responsibilities during a flood event:

All
- Coordinate emergency support within their own functions
- Respond to emergencies of flooding from any source
- Provide assistance with business continuity through advice and support to individuals, businesses, including essential service providers
- Liaise with central government departments via Department for Communities and Local Government
- Open emergency centres to provide humanitarian assistance
- Coordinate the recovery process (a decision will be made early in the response stage whether it is more appropriate for the County, Unitary or District to lead)

County and Blackpool
- Coordinate emergency support from the voluntary sector
- Support the emergency services in the identfifcation and analysis of contamination and pollution
- Manage public health issues

District and Blackpool
- Deal with environmental health issues

5.2.2 The Emergency Services

The Emergency Services includes the Police, the Fire & Rescue Service, the Ambulance Service and the Maritime and Coastguard Agency. Their roles and responsibilities are summarised as:

Police Force
- Save life
- Coordination and communication between emergency services and organisations providing support

Fire and Rescue Service
- Save life rescuing people and animals
- Carry out other specialist work, including flood rescue services
- Assist people where the use of fire service personnel and equipment is relevant

Ambulance Service
- Save life
- Provide treatment, stabilisation and care at the scene

Maritime and Coastguard Agency
- Prevent loss of life on the coasts and at sea
- Provision of a 24 hour maritime search and rescue service around the UK coast
- Mobilisation, organisation and tasking of adequate resources to respond to persons distressed at sea or the UK shoreline.

5.3.3 The Environment Agency

- Issue Flood Warnings and ensure systems display current flooding information
- Provide information to the public on what they can do before, during and after a flood event
- Monitor river levels and flows and tidal conditions
- Work with professional partners and stakeholders and respond to requests for flooding information and updates

13 http://www.legislation.gov.uk/ukpga/2004/36/contents

- Receive and record details of flooding and related information
- Operate water level control structures within its jurisdiction and permissive powers
- Respond to pollution incidents and advise on disposal
- Assist with the recovery process

5.2.4 The Met Office & Flood Forecasting Centre

The Met Office issues severe weather warnings and ensure their systems display the most up to date information.

The Flood Forecasting Centre is an Environment Agency and Met Office joint venture that aims to provide emergency responders with longer lead time flood forecasts and targeted local information to prepare for flooding.

5.3 What Can Communities Do?

It is important to note that when responding to flooding the emergency services prime objective is to save life - the responsibility for the protection of property lies with the property owner.

There are a number of measures which can be taken by the public to make their property more resistant (stop water entering) and resilient (better prepared to recover) to flooding (see Box 5.1).

There are also a number of other actions which we can all do to protect ourselves, our property and our communities from flooding. Implementing this Strategy to enable the long term management of local flood risk will require cooperative working and sharing of information between a broad range of partners, including communities. Such cooperation is critical to realise the many possible integrated benefits across a range of public, private and voluntary sector interests.

We recognise the importance of community involvement in managing the impacts of flooding and the need for collective understanding of both the risk and potential solutions.

We want to empower communities to increase their own resilience and have a say in which management approaches are of highest local importance and which are likely to work best locally.

We are already supporting the establishment of local community groups, particularly in areas identified as having high risk from local sources of flooding and will continue to do so. These groups will support individuals within their community to better understand their flood risk and to take action to manage their own flood risk. Community groups could also offer support to those at risk during flood events and provide a channel for communication between the general public and ourselves and other RMAs.

Box 5.1 Actions that Individuals and Communities Can Do

- There are a number of measures which can be taken to make your property more resistant (stop water entering) and resilient (better able to recover) to flooding. See the National Flood Forum's independent Blue Pages directory at http://www.bluepages.org.uk/ ,the Homeowners Guide to Flood Resilience available at http://www.knowyourfloodrisk.co.uk and the EA's advice at http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx
- Take steps to prepare for a flood as recommended by the EA (www.environment-agency.gov.uk). These include registering for the EA Floodline Warnings Direct service if flooding from rivers may be involved, keeping a 'grab bag' of essential items ready and having a plan to turn off electricity, gas and water supplies.
- Reporting incidents of flooding to the council helps build evidence for action to be taken – water companies cannot take action in response to flooding related to sewers unless they have evidence direct from the property owner that flooding has occurred. Find contact details on the LCC (www.lancashire.gov.uk) and BC (www.blackpool.gov.uk) websites.
- The combined effect of many people paving over their front gardens can increase the amount of surface runoff which adds to the risk of flooding. Since 1st October 2008, planning permission is required if more than five square metres of a new or replacement driveway is to be covered with traditional, impermeable materials that do not provide for the water to run to a permeable area. See the 'Guidance on the permeable surfacing of front gardens' leaflet: http://www.communities.gov.uk/publications/planningandbuilding/pavingfrontgardens
- If you own land adjoining a watercourse then you are a riparian owner and you have a responsibility to pass on flow without obstruction or pollution, including maintaining the banks of the channel and any vegetation so they remain clear of debris. See the EA leaflet 'Living on the Edge': http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx
- If your property is served by separate surface water and foul sewers, you have a responsibility to fix any pipes which may be wrongly connected. For example, dirty water from sinks, baths, showers, appliances and the toilet should go to the foul sewer to be treated, otherwise watercourses can be polluted. Gutters and gullies collecting rainwater should connect to the surface water sewer – if these are wrongly connected to the foul sewer then flooding from the foul sewer can result. See the leaflet 'Is your home connected right?http://www.environment-agency.gov.uk/homeandleisure/pollution/water/31424.aspx
- United Utilities also has information about how members of the public can prepare for a flood - http://www.unitedutilities.com/prevent-flooding-bad-weather.aspx

5.4 Our Strategic Objectives and Measures for Emergency Planning

The new duties and responsibilities for local flood risk provide new challenges and provide the opportunity for further development of the emergency planning function. Along with our stakeholders we have therefore identified the following as a key objective of the Local Strategy:

Strategic Objective: Ensure alignment of local Flood Risk Management and Emergency Planning functions (RR4)

In order to achieve this objective we have identified the following specific actions or measures that we do:

Short Term (Within 1year)

- **Share information held by flood managers with emergency planning managers and vice versa including:**
  - Share the products and services issued by the MET office / Environment Agency / Flood Forecasting Centre in relation to severe weather and flooding
  - Sharing the locations where flooding has occurred
  - Consider developing the use of social media and a more interactive emergency planning service to share information with the general public
  - Produce emergency response flowchart: Produce a simple flowchart for public promotion of how emergency response to major flooding involves the various Partners and how overall service provision should operate.

Medium Term (Within 1 to 3 years)

- **Develop a map of flood emergency response times:** Develop a map of emergency response times to all areas of the county to determine distances to available rescue resources.
- **Identify gaps in Environment Agency flood warning coverage:** Analyse coverage of EA fluvial/coastal Flood Warning Service and identify any key gaps. Undertake feasibility studies towards local community-based warning gauges on priority watercourses not already covered.

6. Spatial Planning and Sustainable Drainage

In this Section we explain why managing development is important and how we intend to improve the links between the LLFA and the Local Planning Authorities. We also describe our future role as a SuDS Approval Body.

6.1 Spatial Planning

6.1.1 Introduction

The surface water flooding of 2007 caused significant amounts of damage across the UK. More recently there has been a number of surface water flooding events across Lancashire. The impacts of these events were significantly increased by the presence of development in areas that have since been identified at high risk of flooding.

It is also possible that some developments may have increased the risk of flooding elsewhere through inappropriate drainage practices.

If the developments in these areas had been planned with an awareness of these risks, much of the damage could have been avoided.

Planning decisions can have a considerable impact on the amount of time and money we spend as LLFAs on managing local flood risks. We will work with the Local Planning Authorities in Lancashire to develop this strategy. There will be further specific Planning Guidance documents being developed to support and enhance certain areas of the Strategy. This strategy should be consulted as part of the planning process to ensure that flood risk management issues are adequately considered. For example Local Plans should have reference to this document when developing proposals for the future.

It is therefore considered that managing future development in high flood risk areas is essential for:

- long term sustainable growth in the region
- improving the safety of people using and living in the development
- limiting the cost of flood risk management in the future

6.1.2 Current Planning Guidance

The National Planning Policy Framework (NPPF) contains specific guidance on development in areas identified as being at risk of flooding from main rivers or the sea.

The areas at risk are identified through Flood Zone Maps and a development in Flood Zone 2 (medium risk) and Flood Zone 3 (high risk) requires a formal Flood Risk Assessment (FRA) as part of the planning application. As part of our role in managing flood risk we review and comment on FRAs submitted to the Local Planning Authority (LPA), as do the Environment Agency.

Whilst the above process makes provision for the risk of flooding from main rivers or the sea, the NPPF does not contain a robust mechanism to prevent development in areas at risk from local flood sources, such as surface water runoff or smaller watercourses. Consequently, the LPA can, without knowing, approve planning applications without appropriate consideration of local flood risks. Figure 6.1 shows a hypothetical situation where development might conceivably be approved without an assessment as it is not in the Flood Zone but is at high risk from an Ordinary Watercourse.

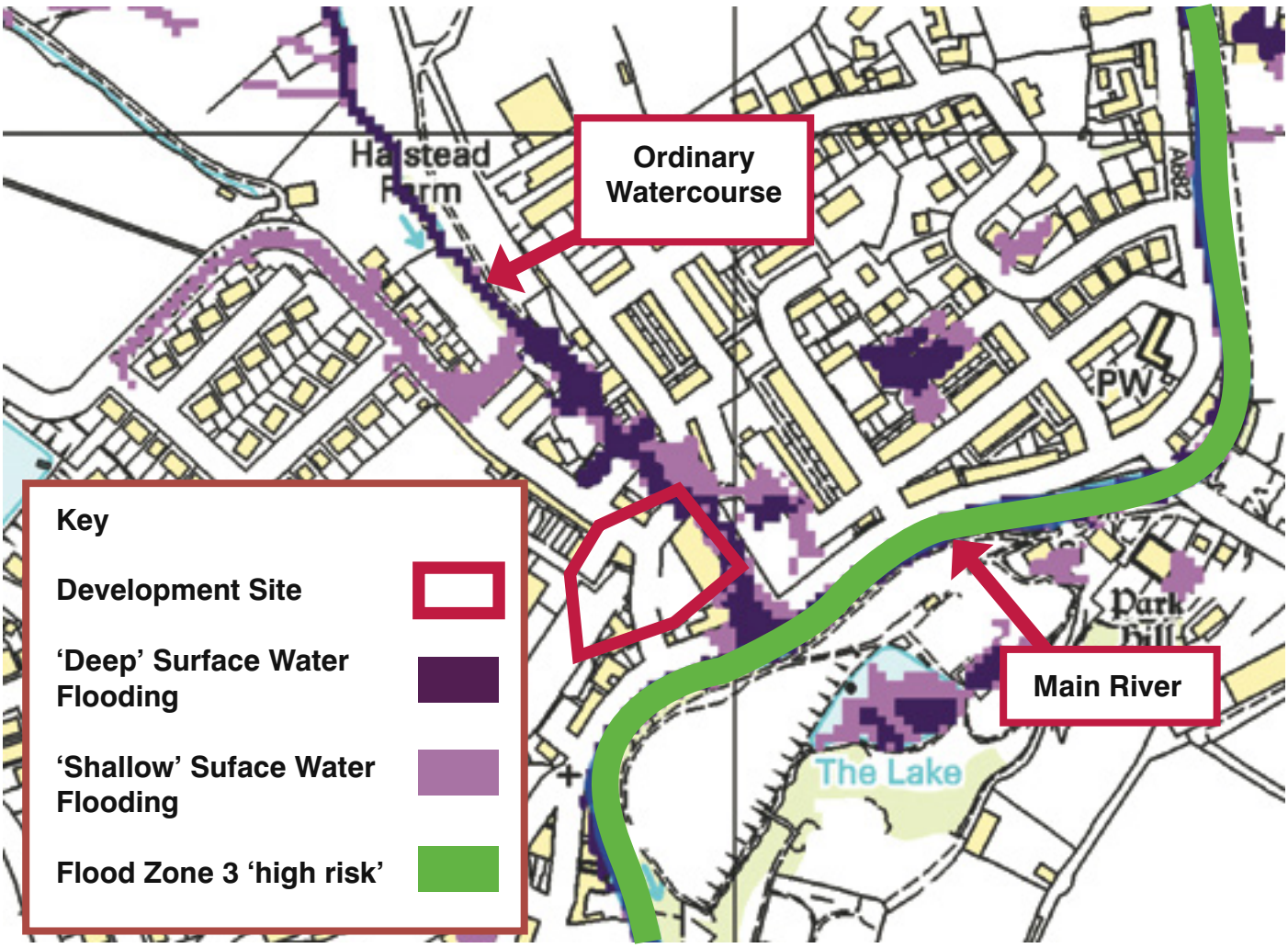


Figure 6.1 Local Flood Risk

6.1.3 How we are Addressing the Situation

We are currently developing a range of proposals to discuss with the various LPAs that exist within Lancashire.

These proposals are highlighted in Section 6.3. They include steps to allow easy identification of areas at risk from local sources of flooding, reviews of Strategic Flood Risk Assessments Development Plans and Supplementary Planning Documents (SPDs).

6.2 Sustainable Drainage Systems (SuDS)

6.2.1 Introduction

From April 2014 the Lead Local Flood Authority will act as a Sustainable Drainage System (SuDS) Approval Body (the 'SAB') and will work in tandem with the planning system. In this capacity, the LLFA will have to approve, or otherwise, sustainable drainage proposals associated with any construction work for buildings, or any structure that covers land and will affect water absorption (including patios), above certain thresholds. The SAB will endeavour to influence developers in delivering added value through the use of SuDS, for example addressing landscaping, health and economic benefits.

From April 2014 the SAB is required to exert this function for all major developments (10 or more dwellings and/or 0.5 hectares or greater) and redevelopments, and determine such applications within a 12 week period. Based on 2012 figures, LCC is anticipating receiving in excess of 450 major applications a year. From April 2017, the SAB will also be required to determine SuDS applications for minor developments. Also based upon 2012 figures, the SAB can expect to receive in excess of 1,500 minor applications annually.
The LLFA will also have a duty to adopt and maintain, for the life of the development, those SuDS serving more than one property. This process will clearly need close working with districts in the planning context, as well as with internal planning departments. The SuDS legislation will be challenging to implement and has been subject to a national consultation, the conclusions from which were published in August 2012. At present, Defra is working towards a finalised version of SuDS guidance and is intending to commence such provisions by April 2014.

The County Council is intending to develop their own policies to address the wider links between flood risk management and the planning system in Lancashire.
The polices will be focused around addressing gaps identified in national guidance and legislation, as well as promoting the benefits and sustainability of SuDS compared with conventional drainage systems in a Lancashire context.

These polices will also form part of the framework for assessing SuDS applications. SuDS will be part of wider land management considerations for the planning process aimed at reducing surface run off and diffuse pollution.

At a local level, it is expected that District and Borough Councils will continue to incorporate flood risk as a fundamental part of planning, and that SuDS will become the preferred form of drainage installed in all new developments or replace old pipe systems in existing developments. Already some areas of Lancashire are beginning to put in place measures to promote SuDS. For example, an action plan for improving the bathing waters across the Fylde Peninsula has committed to installing 50 hectares of retrofitted SuDS by 2025 to reduce the runoff rate and volume that enters sewers and surface waters.

6.3 Our Strategic Objectives and Measures for Spatial Planning and SuDS

In order to meet our obligations in relation to spatial planning and SuDS we have produced a number of objectives and measures. These are outlined below.

Strategic Objective: Manage development so that it reduces flood risk (SFRM 2)

Short Term (Within 1 year)

- Promote good surface water management principles for development: Promote Water Sensitive Urban Design at Master-planning stage of strategic applications and avoid or carefully manage high vulnerability use of below ground space (e.g. basements) in flood risk areas.
- Establish planning policy for LLFA, consultation on planning: Identify when Flood Officers should be consulted on developments.
- Incorporate 'Local Flood Zones' into planning policy: This aims to trigger 'Local Flood' Risk Assessments or Drainage Impact Assessment in areas at high risk of flooding from local sources so that inappropriate development is prevented and/or identified risks are mitigated early in the planning process.

Medium Term (Within 1 to 3 years)

- Implement a programme of SFRA review: Identify a programme for review of SFRAs and ensure they are strengthened with regards to local flood risk, critical drainage areas, promotion of SuDS and development in Zone 1.

Strategic Objective: Promote the use of SuDS (SFRM 3)

Short Term (Within 1 year)

- Agree how the SAB function will operate: Determine how the SuDS Approval Body role will operate so that both LLFAs are integral to the planning process. Implement this role based on draft National SuDS Standards as soon as possible, which may be prior to formal enactment and issue of the final National Standards.
- Develop a Lancashire-specific SuDS Guide: Develop a Lancashire-specific SuDS guide so that developers are aware of what is required with a planning application, and to promote best practice within Lancashire.

Medium Term (Within 1 to 3 years)

- Promote SuDS: Promote the use of SuDS through SFRAs when reviewed and planning guidance. Promote SuDS for council-led developments and as flood alleviation measures in order to lead by example.

Long Term (Over 3 years)

- Separate foul and surface water sewers: Seek opportunities to separate foul and surface water drainage.

7. Communication and Engagement

In this Section we explain how we intend to communicate and engage with stakeholders and local communities with regards to flood risk management.

7.1 Introduction

As discussed in previous sections of this strategy, effective communication between relevant stakeholders and with local communities will be a key part of successful flood risk management.

7.2 What it Will Involve

Ensuring successful flood risk management will involve working closely with the other RMAs and stakeholders to ensure information concerning the results of investigations, proposed actions and future schemes of work are communicated. This should identify opportunities for sharing information about where flooding is occurring and working together on schemes to address flooding issues.

We will also work with our partners to ensure effective communication with local communities, for example promoting the Environment Agency's Extended Floodline Service and working with the district councils to make information available.

A key part of communicating with local communities is ensuring that they are able to prepare for incidents of flooding and have the necessary information before, during and after a flood event. This includes ensuring local communities are able to access information about when flooding might occur and how they can protect themselves if flooding does occur (see Box 5.1).

Appendix A provides some information about the responsibilities of the various RMAs and how they can be contacted.

It will also be important to ensure local communities have the opportunity to be involved in planning for and implementation of flood risk management. This will include supporting the development of local flood forums in affected areas to give local residents the opportunity to share information and comment on priorities and suggested improvement schemes.

When working with our local communities it is important to remember that Lancashire is made up of a people from a variety of different backgrounds. This may affect how they want or need to be communicated with or how they access information and resources should a flood event occur.

7.3 Our Strategic Objectives and Measures for Communications and Engagement

Throughout the Local Strategy we have identified a number of objectives that involve communications and engagement; however the following objective and measures aim to ensure that it is clearly stated and achieved.

Strategic Objective: Encourage stakeholder and community involvement in flood risk management (C&I3)

Short Term (Within 1 year)

- **Develop communication & engagement plan:** Develop, implement and regularly review a communication and engagement plan that identifies who, when and how different community and stakeholder groups will be involved.
- **Public consultation on draft strategy:** Hold a formal Partner and public consultation on the draft Strategy and for other key future plans.
- **Develop a flood awareness programme:** Develop a flood awareness programme, possibly including drop-in events.

Medium Term (Within 1 to 3 years)

- **Communicate flood risk management information:** Make available the best possible information on flood risk and opportunities for its better management to the public and stakeholders through websites and more direct media (e.g. social media, radio, information drops in high risk areas).
- **Scope approaches in small communities:** Scope the feasibility for flood warden schemes and local warning services, particularly in isolated high risk communities.
- **Scope a flood incident reporting tool:** Scope the feasibility of developing a flood incident reporting tool (i.e. internet or mobile phone app) to encourage reporting of flooding when it happens.

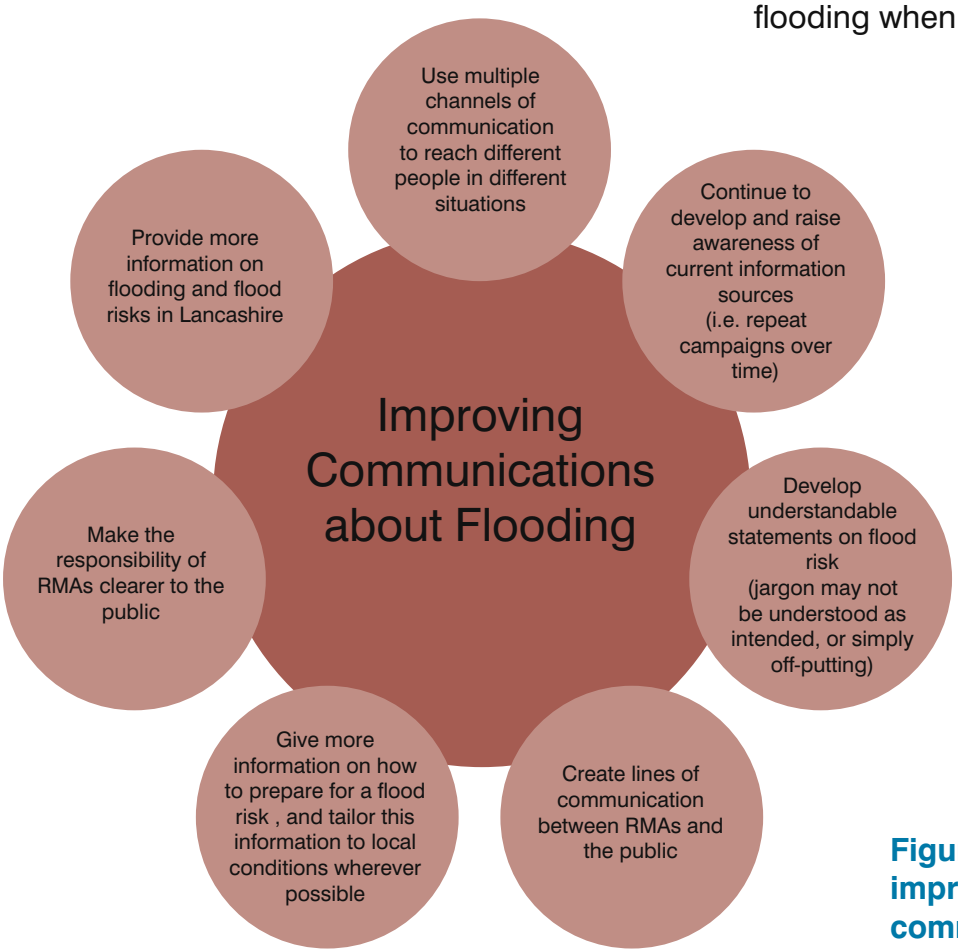


Figure 7.1 How we will improve our flood risk related communications

8 Asset Management

The Lead Local Flood Authorities are required to produce and maintain a flood risk management Asset Register. This section identifies what information we need and how we are going to obtain it.

8.1 Introduction

Many types of structures and landscape features can have a flood risk management function and they may not be limited to those in close proximity to watercourses. However, there is a lack of detailed knowledge of these assets in relation to local flooding and the FWMA has given us a number of responsibilities and powers that will help us to record and manage local flood management assets.

8.2 Asset Register

Under section 21 of the FWMA, each LLFA in England and Wales has to establish and maintain:

- A Register of structures or features which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area, and
- A Record of information about each of those structures or features, including information about ownership and state of repair.

LLFAs also have a duty to arrange for the register to be available for inspection at all reasonable times. This includes inspection by the public. The record does hold more detailed information relevant to the asset which is not available to the public.

8.3 Designation

Under the FWMA, LLFAs can formally designate assets or features that have a flood risk management function.

Designation is a form of legal protection or status reserved for certain key structures or features that are privately owned and maintained but which make a contribution to the flood and coastal erosion risk management of people and property.
A designated structure may be associated with the flood risk relating to watercourses or the sea, or with coastal erosion risk.

A designation is a legally binding notice served by the designating authority to the owner of the feature and the notice is also a local land charge. This means that the notice will also apply to successive owners or occupiers of the land or property automatically.

If the owner of the asset wants to do works or alterations to asset that will significantly affect the flood risk management function of the assets then they will have to apply for consent to the designating authority in order to undertake the works.

As we progress with our flood risk management functions there will be instances where we will want to designate assets and features.

However, because this could have significant impacts on landowners we intend to give further consideration to how this will be implemented. In the short-term we will only be designating assets if there is a clear and urgent need.

8.4 Enforcement

The FWMA transferred the powers for ordinary watercourse consenting and associated enforcement powers to Lead Local Flood Authorities unless in an area covered by an Internal Drainage Board (IDB). In effect this is the whole of Lancashire except the area served by the Earby and Salterforth Internal Drainage Board. The Land Drainage Act 1991 (LDA) as amended by the FWMA 2010 (Schedule 2) underpins this regulation. Under these new powers a LLFA can 'serve notice' on a private land owner or organisation if they have undertaken works on an ordinary watercourse without seeking the appropriate consent. This is particularly important where those works have led to a flood issue, usually further downstream.

When undertaking enforcement it is always preferable to speak to the person responsible for the watercourse prior to entering into formal correspondence and enforcement procedures. The focus of the conversation will be on making them aware of their responsibilities and agreeing any works necessary to resolve the problems. Enforcement procedures are prioritised using a risk based approach

It is important to note that an offence is committed under the LDA 1991 by failure to comply with a notice and not by the deed itself. As LLFA, we must serve notice before taking remedial action under the LDA. The serving of the notice must follow the procedures set out by the appropriate legal representatives within the LLFA and be accompanied by the appropriate covering letter.

When serving notice fails to deliver a satisfactory outcome the Local Authority will consider implementing its powers under the LDA 1991 (c. 59) Section 25 to undertake works on behalf of riparian owners and reclaim costs.

8.5 Our Strategic Asset Management Objectives and Measures

The specific objectives of what we want to achieve as part of the Local Strategy and the measures that ensure we will deliver them are set out below.

Strategic Objective: Set out an asset management plan (SFRM 5)

Short Term (Within 1 year)

- **Obtain information on flood risk assets:** Agree which organisations (LLFAs, District Councils, IDBs, UU, highways, Canal & River Trust, reservoir owners etc.) will share asset lists, what format these will be in and what conditions there are associated with the data. Obtain signed agreement for any onward sharing of information.
- **Develop and populate record and register of assets:** Develop and maintain a record and register of assets, including contributions from assets owners. Ideally the register will be GIS-based and linked to other flood risk management data e.g. records of past flooding, flood maps etc.

Medium Term (Within 1 to 3 years)

- **Develop asset management plan:** which is linked to encouraging private owners to maintain their assets. The plan should agree how the register is used to guide the maintenance and monitoring of assets.
- **Develop asset designation policy and procedure:** Develop a policy and process whereby assets may be designated as affecting flood or coastal erosion risk, involving legal teams as necessary.

Strategic Objective: work with the owners of assets with a flood risk management function (SFRM6)

Short Term (Within 1 year)

- **Develop enforcement policy & procedure for drainage assets:** Define when and how the LLFAs and the District councils could use powers to enforce maintenance of private assets and Ordinary Watercourses. Develop consistent policy and procedures with local authority legal teams and publish when finalised.

Medium Term (Within 1 to 3 years)

- **Raise awareness of asset owner responsibilities:** Include in the asset register an identification of privately held assets. Instigate a prioritised programme of contact with land owners to discuss the current state of their assets, the benefits they should be providing and outline their duties. Raise awareness of the local flood risk management strategy and the relevant policies and procedures which the local authorities will follow.

9. Resourcing and Funding of Local Flood Risk Management

Our new responsibilities and duties for the management of local flood risks require additional resources and funding. This Section of the Local Strategy explains how we will ensure that we have the appropriate people and funds to meet the requirements of the Flood and Water Management Act and other local needs.

9.1 Funding

9.1.1 Funding Currently Available

The management of local flood risk places significant extra responsibilities and new duties on councils. The Government has committed to provide funding to assist with fulfilling these responsibilities, at least in the short term. Defra is, therefore, currently providing us with an annual formula grant.

The total funding available from Defra which is split between all 152 LLFAs is currently set at £36 million a year. The split between authorities is related to the level of local flood risk as assessed from national mapping, and results in grants to individual LLFAs of between £110,000 and £750,000 a year. In terms of risk, LCC's area ranks 8th out of the 152 LLFA areas, and Blackpool ranks 138th. Both authorities expect to receive a proportional share of the available funding.

Part of this formula grant funding will be used to implement the measures identified in Section 3 and the Action Plan.

9.1.2 How We Will Seek Additional Funding

There are a number of sources of additional funding which can be pursued in order to reduce flood risk to property. These potentially funding sources are discussed below.

9.1.2.1 Central Government / National Funding

Central government funding is now allocated to flood risk management projects to encourage communities to invest in locally-appropriate measures which protect them. Instead of meeting the full costs of a limited number of projects, a variable amount of central government money is available towards any worthwhile scheme.

Central funding for a scheme relates to the number of households protected plus other benefits a scheme would deliver, for example creation of habitat.

If a proposed scheme does not qualify for full central funding, contributions from local Partners and/or beneficiaries are required to meet the full costs of the scheme (see Figure 9.1). This gives each community more of a say in which schemes are taken forward to protect them.

If required, the councils will seek local contributions from those who are likely to benefit from a proposed scheme. Schemes which are likely to attract the most central funding are those which:

- Protect a large number of households, especially in deprived areas and where the risk of flooding is significant and typically high in frequency.
- Achieve other benefits such as protecting businesses, agricultural activity and national

and local infrastructure, across the whole life of the scheme.

- Provide environmental benefits needed to maintain healthy ecosystems as well as offset any habitats lost when a scheme is implemented.

Other national sources of funding (e.g. government and National Lottery funded regeneration grants) may also be considered.

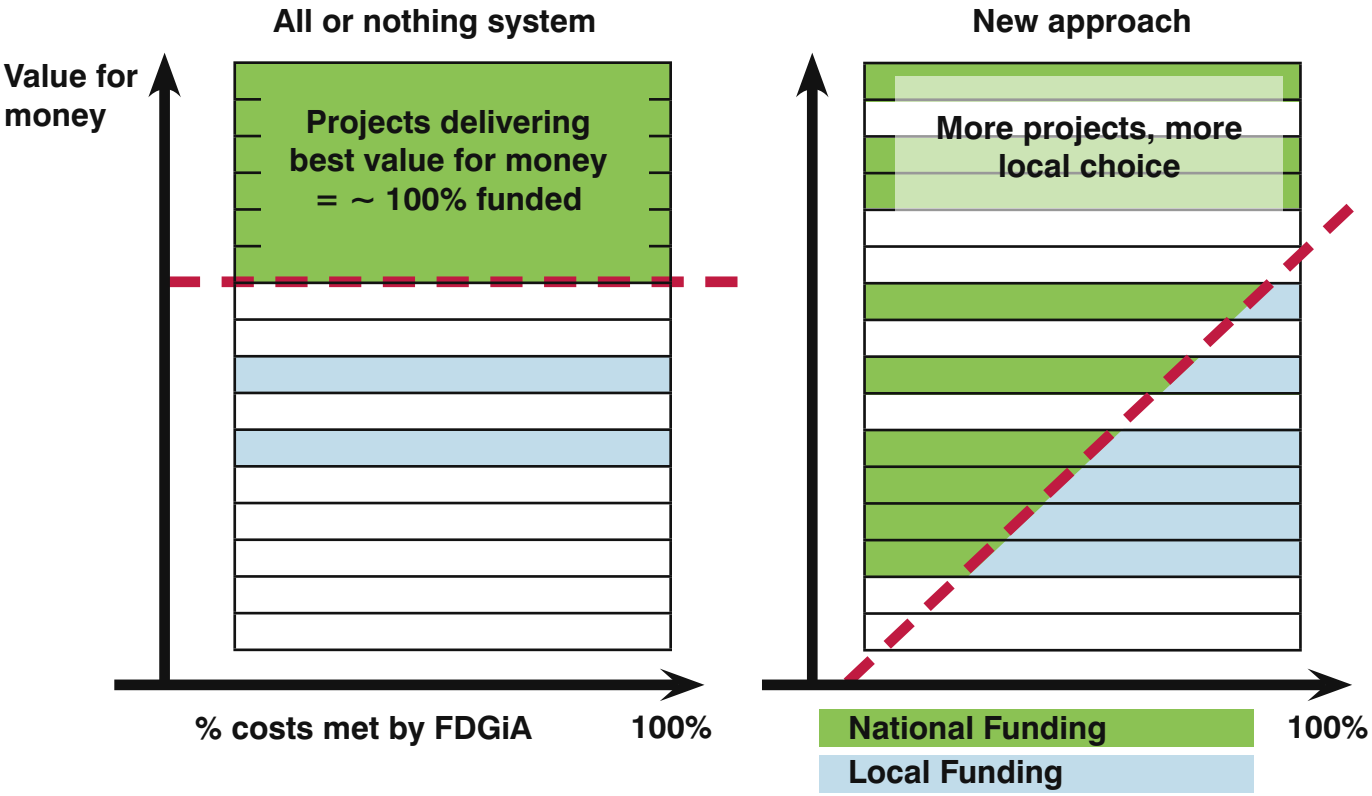


Figure 9.1: Comparison of the new and previous funding principles

Note: reproduced courtesy of D. Johns, Head of Funding, Insurance and Outcomes, Defra

9.1.2.2 Regional Funding

Both Lead Local Flood Authorities are represented on the North West Regional Flood and Coastal Committee. Funding is raised by the RFCCs by way of a levy on the LLFAs in their areas and payments are supported by grants from central Government.
The RFCCs are responsible for making decisions on how the local levy is spent.
The local levy can be used to support locally important flood risk management projects that are not considered to be national priorities and hence may not attract full central government funding.

Contributions from private beneficiaries (e.g. Trusts and utility companies) may also be considered.

9.1.2.3 Local Funding

When new development occurs, a levy can be charged by the council which is designed to cover the cost of new public facilities required as a result of the development. Larger strategic developments have the potential to generate Community Infrastructure Levy (CIL) funds which could be used to contribute to some schemes, and especially those which will have multiple benefits, e.g. pond or wetlands which can attenuate surface water as well as providing improved amenity value.

Other local sources (e.g. Business Rate Supplements) may be considered.

9.1.2.4 Involvement of the Voluntary Sector

As highlighted in Section 2.2 to 2.7, there are a number of activities which could be undertaken by local communities, supported by the councils, the EA and others, that could make local communities less vulnerable to the consequences of flooding. These include maintenance of watercourses, reporting flood events, volunteering as flood wardens and being involved in the development of local management responses to flooding.

9.2 Our Strategic Funding Objectives

Funding is critical to what we can do as a LLFA. For this reason we have identified two specific strategic funding Objectives. The first is:

Strategic Objective: Define the approach to, and opportunities for, resourcing and funding local flood risk management activities (F1)

To achieve this Objective we have set ourselves a number actions and measures. These are:

Short Term (within 1 year)

- **Define resource requirements:** At a strategic level, define resource requirements to fulfil statutory obligations ('do minimum') over the next 5 years, as well as to implement other recommended measures.
- **Develop funding strategy:** Assess potential funding streams and resource pools and develop a prioritised strategy for accessing these. Use the partnership arrangement to apply for funding for integrated flood risk management from a broad range of sources.

Medium Term (within 1 to 3 years)

- **Maintain funding on the Lancashire Strategic Partnership Group agenda:** At least once a quarter, as part of the existing Lancashire Strategic Partnership Group meetings, (which include representatives from council teams, the EA and the Regional Flood and Coastal Committee) discuss upcoming funding opportunities.

The second objective directly related to funding is:

Strategic Objective: Encourage beneficiaries to invest in local flood risk management (F2)

Short Term (Within 1 year)

- **Raise awareness of flood risk:** Encourage the public, businesses, landowners etc. to recognise their level of vulnerability and take responsibility for their own protection against flooding through a campaign of public awareness.
- **Include funding in communication & engagement plan:** In the communication and engagement plan, set out how and when potential beneficiaries will be involved in scheme planning and contributions sought.

10. Environment and Sustainability

In this Section we state how the Local Strategy will address the Environment and Sustainability issues that are relevant to the management of local flood risks.

10.1 Introduction

Flood risk management schemes that integrate environmental, social and wider economic benefits are more likely to obtain buy-in from stakeholders and communities. This may encourage funding contributions and is likely to make works easier to implement in the long term.

The primary focus of flood risk management will always be reducing flood risk to people, property and land, but the benefits from sustainable measures are themselves a desirable outcome. These include:

- **Environmental:** water quality improvements, biodiversity enhancement, adaptation to climate change e.g. aquifer recharge
- **Social:** public amenity enhancement, more cohesive communities, healthier environment
- **Economic:** promote development and business growth, encourage more visitors to the area, increased land values

These principles are embedded in concepts such as Water Sensitive Urban Design, which seek outcomes such as:

- new development ideally to be located outside areas of flood risk
- a water cycle study completed at the Masterplanning stage to inform layout and design
- high standard homes which maximise water efficiency
- blue-green corridors which create channels for surface water to collect, be treated and flow
- wetland areas
- on-site water recycling
- water harvesting and storage
- local management of water services

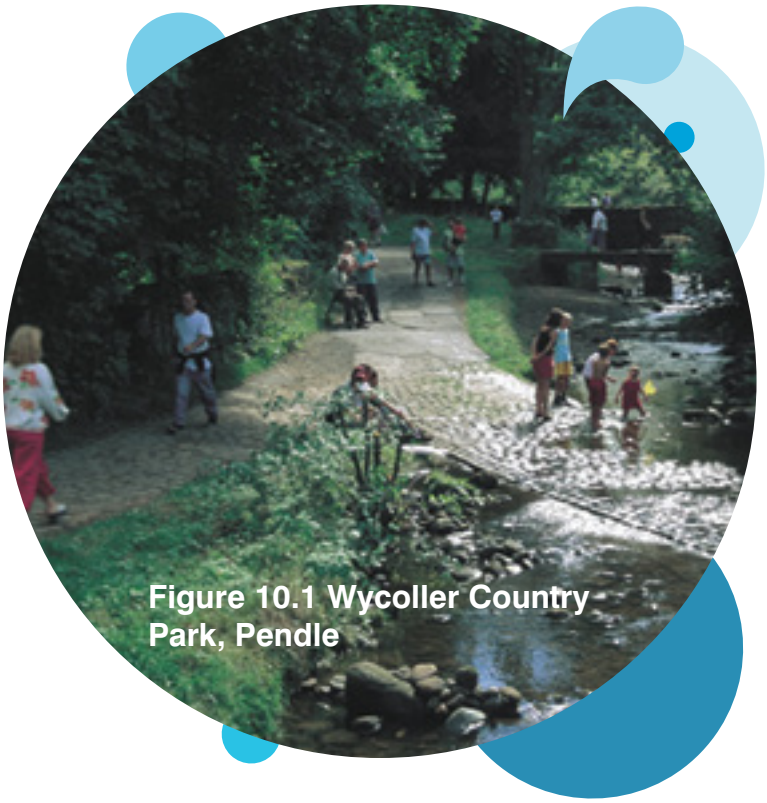


Figure 10.1 Wycoller Country Park, Pendle

10.2 Relevant Legislation and Directives

Sustainable flood risk management will help the LLFAs to meet the requirements of various legislation, including the Climate Change Act, Water Framework Directive, Bathing Waters Directive, Strategic Environmental Assessment (SEA) Directive, Habitats Directive and Natural Environment and Rural Communities (NERC) Act. With such strategies taking a wider catchment based approach, and working at a landscape scale, as advocated in the new Environment White Paper we would welcome new integrated flood risk management options that maximise flood risk benefits in combination with other biodiversity, WFD, green infrastructure opportunities, and ensure such wider environmental benefits are actively considered, with also greater likelihood of attracting investment.

Overall, this Local Flood Management Strategy aims to impact positively on everyone who lives and/or works in Lancashire, including those who are visiting, passing through or temporarily located in Lancashire for whatever purpose.

The Equality Act 2010 introduced the term 'protected characteristics' and makes it unlawful to discriminate against a person who belongs to one of the groups who are protected under the Act. The groups identified by the Equality Act 2010 are: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation. These groups with protected characteristics may require further consideration and consultation as the Strategy is implemented. It is important to ensure the needs of these groups are considered as part as Flood Risk Management for example some groups may have difficulty in accessing, interpreting or acting on flood warnings and we need to ensure that flood risk management schemes do not have a negative impact on the ability of people to use the highway and pathways. Benefits for all people in Lancashire from implementing this Strategy, including those with protected characteristics, could arise through:

- an improved public realm
- an improved environment through planning for emergency flooding situations
- improved mental wellbeing of residents
- more social inclusion and engagement
- increased social capital and community cohesion, giving more power to local people-local innovations and solutions to benefit communities who face the greatest risk but who are least able to help themselves
- sustainability – working to benefit people (including those with protected characteristics), the environment and the economy

Improved flood risk management can help to achieve other targets of improved health and wellbeing as reducing the incidence of flooding reduces the social, economic, physical and psychological burden on the community as well as potentially improving the amenity value of shared community spaces.

10.3 Strategic Environmental Assessment

This Strategy is being informed by undertaking a Strategic Environmental Assessment (SEA)[14]. The SEA seeks to ensure that the objectives and measures in the Strategy take into account the environment, social and socio-economic and health concerns, and take advantage of opportunities for wider benefits at the same time. The SEA process runs concurrently with the development of the Strategy and aims to identify the likely

14 This is a requirement under the EC SEA Directive (2001/42/EC), implemented in England through the Environmental Assessment of Plans and Programmes Regulations (SI 1633 2004).

significant effects of the objectives and measures and makes recommendations to change or improve these where appropriate.

The Scoping phase of the SEA has determined that the following issues should be investigated further in the assessment phase:

- **Biodiversity:** flood risk to designated sites, other habitats and associated species; changes to habitats and direct species mortality
- **Local Community:** flood risk to properties, community facilities and businesses, or their connectivity; flood risk to environments in deprived areas
- **Recreation:** flood risk to recreational facilities or features; access to recreational routes / facilities
- **Geology and Soils:** flood risk to geological features; land use conflict with soils; land use conflict with geological features
- **Water Environment:** compliance with the River Basin Management Plan; risk of water pollution; long-term ability to achieve 'good status' or 'good potential'
- **Climatic Factors:** construction CO2 emissions
- **Landscape and Townscape:** flood risk to landscape and townscape; landscape and townscape character
- **Historic Environment:** access to land use or design conflict with historic features; designated or non-designated historic features; flood risk to historic assets
- **Material Assets:** flood risk to key infrastructure

To maintain a future perspective on environmental impacts associated with the Strategy, the SEA will identify the need to incorporate environmental monitoring as part of the overall approach to monitoring achievement of the Strategy objectives and measures.

The SEA assessment will also address the requirements of Habitats Regulation Assessment (HRA) under the Conservation of Habitats and Species Regulations 2010. The HRA will consider the potential effects of a development plan on the biodiversity of designated European Sites, including Special Protection Areas and Special Areas of Conservation.

10.4 Our Strategic Environmental and Social Objectives and Measures

Sustainability and environmental considerations are an implicit part of most of our strategic objectives; however the following objective has been included to ensure that is an explicit part of our Local Strategy.

Strategic Objective: Integrate economic, social and environmental improvements with local flood risk management in line with sustainability principles (SFRM1)

Short Term (Within 1 year)

- **Keep abreast of latest flood risk management information:** Useful information will include climate change predictions and guidance from the EA, Defra, IPCC etc, and latest guidance and best practice on sustainable management of surface water (e.g. Retrofitting SuDS, Water Sensitive Urban Design, rainwater harvesting etc.).
- **Raise awareness of climate change, adaptation and sustainability guidance:** Disseminate up to date information and guidance as widely as possible. Awareness raising should be within local authority teams and with the public (e.g. information on websites).
- **Seek expert involvement to deliver sustainability:** Ensure involvement of appropriate officers or other experts so that flood risk management proposals integrate appropriate economic, social and environmental.

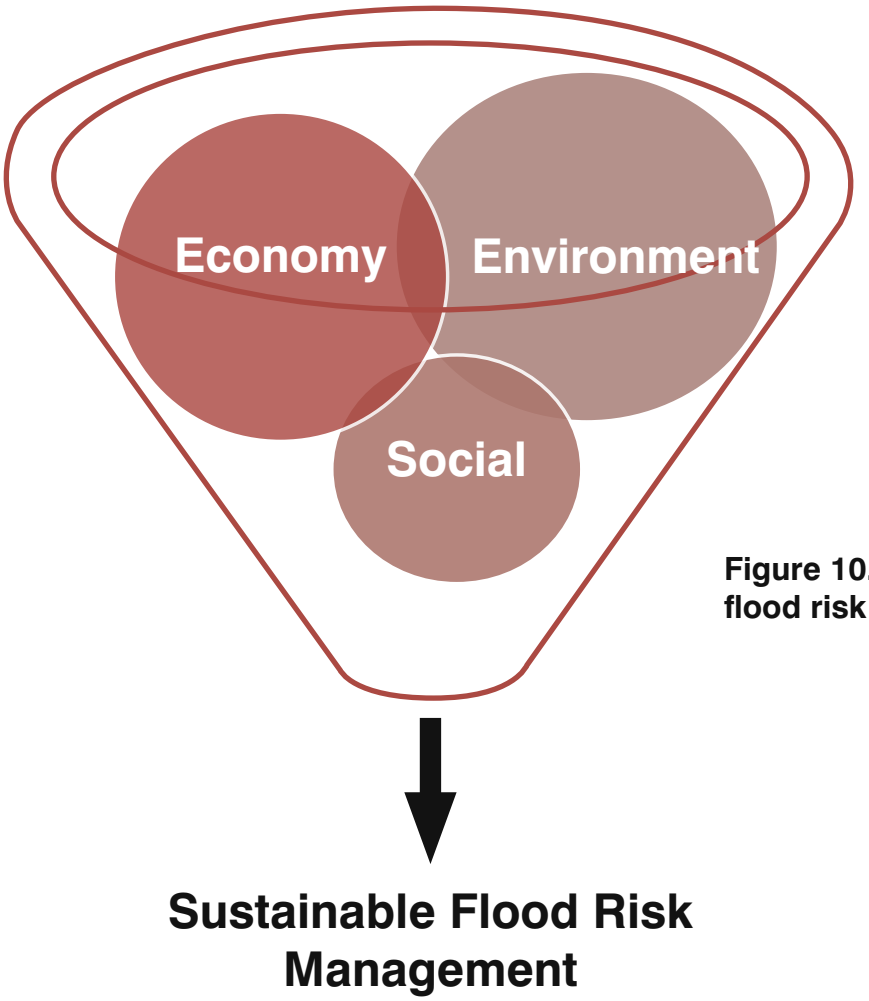


Figure 10.2 Principles of sustainable flood risk management.

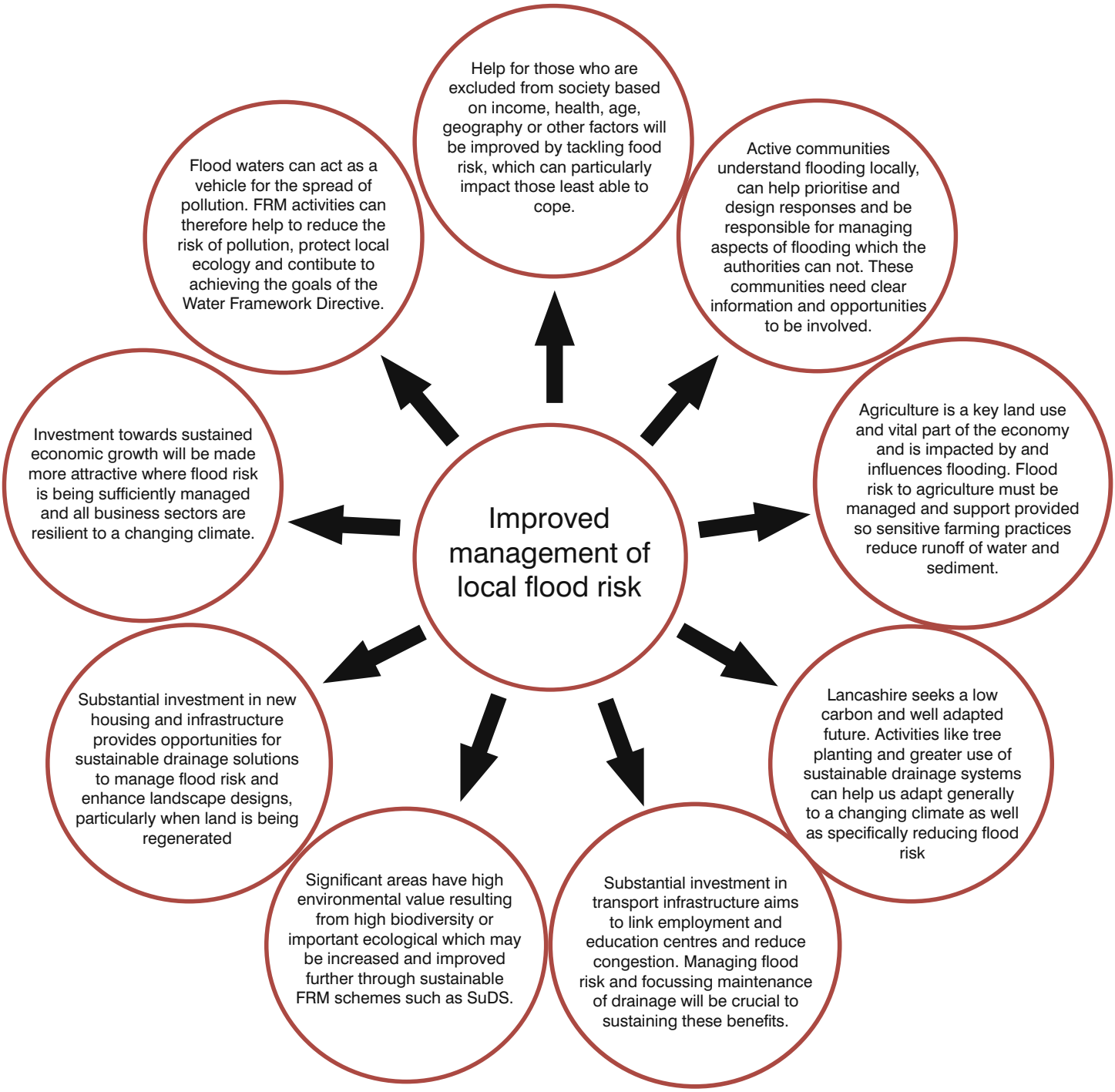


Figure 10.3 How local flood risk management can link into wider environmental and social goals

Figure 11.1 The Blackpool Coast

11 Locally Important Issues

It is vital that the Local Strategy incorporates locally important issues, in this section we discuss these issues in more detail and how we intend to address them.

11.1 Introduction

Many of the themes discussed in this section of the document have already been discussed in previous sections. In this section however, we aim to place an emphasis on issues that we see as being particularly relevant to us and our communities.

11.2 Sustainable Drainage Systems and Water Quality

The Lancashire Coast contains a number of traditional seaside towns where tourism makes a significant contribution to the local economy. These towns include Blackpool and Morecambe which attract people from all over the UK.

The quality of our coastal bathing waters has major implications on the attractiveness of our seaside resorts to visitors. Beaches that do not meet the relevant European Standards could deter tourists and create a long lasting negative image that we wish to avoid.

Water quality can be affected by issues such as sewer discharges that often occur as a result of heavy rainfall events. Much of the water enters the sewers and effectively overloads the system. As a result, untreated sewage is discharged to the sea.

United Utilities have recently invested over £150 million on a wastewater treatment plant at Fleetwood Marsh that will help improve water quality in Lancashire and plan to spend a further £114 million on new wastewater interceptor tunnels that will help protect the Ribble Estuary.

However, even this will not be enough to solve an issue which is largely due to the historic practice of using sewage systems to manage rainwater.

The use of SuDS could help reduce the instances when raw sewage is discharged into the sea, by preventing and limiting the instances when rainwater enters the combined sewer system. For this reason we are strongly supportive of SuDS in addition to the benefits for flood risk management.

11.3 The Rural Economy

Lancashire contains some of the highest grade and most productive agricultural land in the UK. The rural economy plays a very important role in the region and employs a large number of people.

However, much of the land used for farming is located in low-lying areas to the west of Lancashire. These areas are drained by an extensive network of watercourses such as ditches, streams and river. Water levels are also managed in some locations with the aid of pumping stations.

Maintaining water infrastructure related to agriculture has a cost and in the current economic climate, funding for these activities is under significant pressure. This is especially true, when there is a strong focus on protecting people and property over agricultural land. We are working with our RMA partners to develop governance options for water management in rural areas, with a view to balancing the needs of agricultural productivity, flood risk management and sustainable drainage practices.

11.4 Innovation

The LLFA role is a recent development and we are gradually building up our expertise in this area. Many of the existing tools and methods we use for flood risk management have been developed for investigations and mitigation of the risk from large rivers and the sea. However, these approaches may not be the best for local flooding problems as they are disproportionately expensive and time consuming for the scale of the problem being faced and the resources available.

As time goes by we aim to develop our skills and tools to gain efficiency savings and reduce the flood risk to communities more effectively. We will continue to share our innovations and approaches with other partners and RMAs. One of the things that we are particularly keen to encourage with other RMAs is a 'no regrets' culture to flood risk management. This means that when other RMAs are doing works that may or may not be related to flood risk, but they see an opportunity to reduce runoff or provide some extra protection at minimal cost, that they have the ability and confidence to carry out the works. We believe that with appropriate direction this approach will have a significant overall benefit to the community and foster good relationships with our partners.

Strategic Objective: Encourage innovation in local flood risk management (SFRM4)

Short term (Within 1 year)

- Build capacity: invest in LLFA and district flood risk management officers, for example attendance at conferences and sharing good practice with partners and the wider public as appropriate

Medium term (Within 1 to 3 years)

- **Seek pilot study opportunities:** seek opportunities and / or funding for pilot studies to demonstrate new tools and techniques which could yield benefits
- **Set the framework for a 'no regrets' culture of sensible works:** through education and awareness raising, encourage a 'no-regrets' culture of undertaking works in innovative ways which are appropriately controlled and consistent with local and national strategies

11.5 Our Strategic Local Objectives and Measures

Strategic Objective: Allow RMAs to make efficient decisions on flood risk management and exploit opportunities effectively (RR2)

Short Term (Within 1 year)

- **Develop a timeline of flood risk management activities:** Develop a timeline covering relevant activities of all RMAs which includes the cycle of various funding streams (e.g. FDGiA and water company Asset Management Plan periods) as well as requirements for example for updating PFRAs, reviewing the Action Plan.
- **Further develop the Action Plan:** The Action Plan identified in this Strategy should be further developed so that it prioritises implementation of measures, studies and schemes.
- **Define a decision making framework for undertaking works:** Define a decision making framework which balances the desire for a "no regrets" culture in other teams (and potentially communities e.g. farmers) with the need to consult stakeholders where appropriate.

Medium Term (Within 1 to 3 years)

- **Raise awareness of 'no regrets' actions:** Implement a programme of education and awareness raising within local authority teams (e.g. highways and spatial planning) and others with the aim of creating a "no regrets" culture for undertaking sensible flood risk management works.
- **Design process flow charts:** Design and promote clear process flow charts for applicants and reviewers to follow e.g. consent for drainage improvements, what a SuDS drainage application should contain, how should a flood event be reported etc.

Strategic Objective: Give Risk Management Authorities' powers to undertake flood related works (RR3)

Short Term (Within 1 year)

- **Develop policy and process for RMAs to undertake flood-related works:** Develop a policy to define how and when powers under Section 14A of the Land Drainage Act 1991 can be used by each RMA, and clearly set out the process of accountability including an appeals mechanism

Medium Term (Between 1 and 3 years)

- **Review flood works policy and process:** once some experience of implementing the policy and process has been gained, review their appropriateness and check that there remains the necessary degree of accountability

12 Moving Forward – Implementing and Reviewing our Strategy

In this final section of the strategy we address how we will start to implement the objectives contained in the other sections and detail how the strategy will be reviewed.

12.1 Introduction

Throughout the course of this Lancashire and Blackpool Local Flood Risk Management Strategy we have given 19 key objectives that state what we want to achieve over the next three years and beyond. We have also developed measures that, once implemented, should ensure these objectives are met.

These objectives and measures may be refined in future as the Local Strategy is implemented and reviewed. However, they will remain consistent with the requirements of the FWMA and the EA National Strategy, and reflect local flood risk and priorities.
The objectives and measures we have developed have been drawn together to form an 'Action Plan'. This Action Plan is discussed in more detail in Section 12.4
We believe that by delivering the stated objectives, we will fulfil our overarching vision for local flood risk management in Lancashire which is given in Box 1.2 in Section 1.
However, processes are needed to ensure that we are meeting our own targets and that other RMAs are contributing to our objectives in accordance with the FWMA.

12.2 Accountability

12.2.1 Reviewing Our Progress

There are processes in place that will ensure that we are meeting our own strategic objectives and those set out in the National Strategy and the FWMA. These processes include external review of the Local Strategy and our progress which is monitored by the Environment Agency and other stakeholders.
Progress on the Action Plan will be monitored by the Lancashire Strategic Partnership Group which meets at least four times a year.
The Action Plan will be fully reviewed annually to identify completed actions and include new ones. Completed actions will be recorded in a monitoring report to highlight progress and celebrate success. This report may also be used for internal performance monitoring and auditing.

There are also processes whereby our progress will be reviewed internally within our own councils via Scrutiny Committee.
Both LLFAs will be producing a series of Key Performance Indicators (KPIs) related to the management of local flood risks. The KPIs will be aimed at ensuring that there are year on year improvements in terms of the number of properties protected and the information that the LLFAs have available to them. These KPIs will be agreed internally within each organisation (Lancashire County Council and Blackpool Council).

12.2.2 Accountability of Other RMAs

The multi-agency Strategic Flood Risk Management Group is chaired by the local authorities to oversee actions related to better management of local flooding. The actions of this group and, individually, each of the RMAs are accountable to both Lancashire County Council's and Blackpool Council's Overview and Scrutiny Committees.

Under the Flood Risk Management Overview and Scrutiny Regulations 2011, the Committee is empowered to request reports or attendance at meetings to allow scrutiny of the delivery of flood risk management functions.
The scrutiny committee will focus on both

proactive decisions being made by the Strategic Flood Risk Management Group and RMAs, as well as services provided in reaction to flooding which has occurred. The process will help lessons to be learned from past experiences and set decisions in the wider context of council and Partner activities. It will also help flooding to be given the appropriate focus within the councils.

We will continue to support the activities of the North West Regional Flood and Coastal Committee (RFCC) and work to prioritise the management of risk to balance both strategic and local needs.

12.2.3 Accountability to the Public

Improved management of local flooding is a service we and our partners provide to the people of Lancashire. Through implementing this Local Strategy, our aim is that those at risk are better protected and more informed. As such, we are committed to keeping the public informed about key information and we will involve the public in formulating and shaping decisions. This will continue to be through consultation with individuals, letters to groups, local displays, stakeholder workshops, web-based consultations, media announcements and any other relevant means as judged appropriate on a case-by-case basis.

12.3 How Long will this Strategy be Relevant?

Since this is the first Local Flood Risk Management Strategy produced in Lancashire, it will be reviewed after three years so that it reflects the establishment of new roles and responsibilities. Subsequently, review is proposed to follow the same six year cycle as required to update the Preliminary Flood Risk Assessment. This will enable the changing level and understanding of risk to be reflected in the approach to improved risk management.

12.4 Our Action Plan

The 19 objectives (i.e. outcomes or targets to be achieved) have been defined during the course of this strategy to improve management of local flood risk. These have been developed and agreed over the past six months between partners and Risk Management Authorities with the following overarching aims in mind:

- To put policies, plans and procedures in place that allow the duties and powers of the FWMA and other relevant legislation to be delivered
- For the people and organisations involved in local flood risk management to understand their roles and to be committed to them
- For areas of flood risk to be known, and for investigations and works to be planned and carried out on a priority basis
- For Sustainable drainage systems conditions to be put in place that will reduce future resources used for managing flood risk.
- To ensure that opportunities for ‘quick wins’ can be progressed with minimal delay and with a ‘no regrets’ approach

In Figure 12-1, the 19 objectives that we identified have been grouped into the following five key themes:

- Roles and Responsibilities
- Understanding Risk
- Funding
- Communication and Involvement
- Sustainable Flood Risk Management

We have stated that the objectives will be delivered through a range of measures, i.e. activities that will be undertaken to manage flood risk that have also been clearly identified throughout this document.

Some of these measures are a continuation of what the RMAs already do e.g. inspecting and maintaining highway drainage and Ordinary Watercourses on council owned land.

Others will be new activities which have been introduced by this Strategy. These include, for example, investigating certain flood incidents. It will not be possible to deliver all of the measures immediately due to the limited funds and availability of resources within the LLFAs and also within the partner organisations. Consequently, the measures have been assigned one of three time periods whereby it is expected that work will have at least begun. This is based on the perceived priority of measures in a local context. It is important to note that there are some measures which will be on-going. The periods are:

- Short term = 1–12 months
- Medium term = 1-3 years
- Long term = >3 years

Note that that the priority of the measures may change following consultation with stakeholders and the public.

The prioritisation of these measures will effectively provide the ‘Action Plan’ for delivering the Local Flood Risk Management Strategy – i.e. when we will be implementing the measures.

Figure 12.1 - The Local Strategy Objectives by Key Themes

12.4.1 Strategic Theme - Roles and Responsibilities

Our Strategic Objectives:

- RR1 - Identify FRMAs and define each FRMA's roles and responsibilities in relation to managing risk from all sources of flooding
- RR2 - Allow RMAs to make efficient decisions on flood risk management and exploit opportunities effectively
- RR3 - Give risk management authorities powers to undertake flood related works
- RR4 - Ensure alignment of local Flood Risk Management and Emergency Planning functions

Proposed Measures to Achieve Objectives:

Short Term (Delivery anticipated within 0-12 months)

- Memorandum of Understanding to agree responsibilities
- Define scrutiny process for FRM
- Define processes for Ordinary Watercourse consenting and enforcement of drainage responsibilities
- Define leads for zones of interaction
- Develop a timeline of flood risk management activities)
- Further develop the Action Plan
- Define a decision making framework for undertaking works
- Develop policy and process for RMAs to undertake flood-related works)
- Share information between Flood Risk Management Team and Emergency Planning Services
- Produce emergency response flowchart
- Determine feasibility of a single flood reporting contact

Medium Term (Delivery anticipated within in 1-3 years)

- Develop a programme to review relevant council procedures
- Review roles and responsibilities
- Raise awareness of 'no regrets' actions
- Design process flow charts
- Review flood works policy and process
- Develop a map of flood emergency response times
- Identify gaps in EA flood warning coverage

12.4.2 Strategic Theme - Understanding Risk

Our Strategic Objectives:

- UR1 - Understand key local flood risks
- UR2 - Work together with other RMAs to investigate and manage interactions between Main River, coastal flooding and local flood risks
- UR3 - Record, investigate and report flooding incidents
- UR4 - Take account of climate change when fulfilling duties and responsibilities in flood risk management

Proposed Measures to Achieve Objectives:

Short Term (Delivery anticipated within 0-12 months)

- Create a Local Flood Risk Management Plan
- Develop flood incident reporting database
- Record drainage engineer experience
- Maintain awareness of latest risk mapping tools
- Undertake a Pilot Ordinary Watercourse Study
- Map zones of flood source interaction
- Share information about planned FRM works and schemes
- Agree criteria for undertaking flood investigations
- Embed climate change into local flood risk management

Medium Term (Delivery anticipated within in 1-3 years)

- **Undertake SWMPs**
- **Promote adaptive practices**

Long Term (Delivery anticipated within in 3+years)

- **Promote carbon accounting**

12.4.3 Strategic Theme - Funding

Our Strategic Objectives:

- F1 - Define the approach to, and opportunities for, resourcing and funding local flood risk management activities
- 2 - Encourage beneficiaries to invest in local flood risk management

Proposed Measures to Achieve Objectives:

Short Term (Delivery anticipated within 0-12 months)

- Define resource requirements
- Develop funding strategy
- Raise awareness of flood risk
- Include funding in communication and engagement plan

Medium Term (Delivery anticipated within in 1-3 years)

- Maintain funding on strategic group agenda

12.4.4 Strategic Theme - Communication and Involvement

Our Strategic Objectives:

- C&I1 Deliver flood risk management through effective partnership working
- C&I2 Establish effective data sharing agreements
- C&I3 Encourage stakeholder and community involvement in flood risk management

Proposed Measures to Achieve Objectives:

Short Term (Delivery anticipated within 0-12 months)

- Map RMA expectations
- Review membership of groups
- Agree data sharing protocols
- Develop foundational communication and engagement plan
- Public consultation on draft strategy
- Develop a flood awareness programme

Medium Term (Delivery anticipated within in 1-3 years)

- Build strong partnerships (C&I1)
- Communicate flood risk management information (C&I3)
- Scope approaches in small communities (C&I3)
- Scope a flood incident reporting tool (C&I3)

12.4.5 Strategic Theme - Sustainable Flood Risk Management

Our Strategic Objectives:

- SFRM1 Integrate economic, social and environmental improvements with local flood risk management in line with sustainability principles
- SFRM2 Manage development so that it reduces flood risk
- SFRM3 Promote the use of SuDS
- SFRM4 Encourage innovation in local flood risk management
- SFRM5 Set out an asset management plan
- SFRM6 Work with the owners of assets with a flood risk management functionwork with the owners of assets with a flood risk management function

Proposed Measures to Achieve Objectives:

Short Term (Delivery anticipated within 0-12 months)

- Keep abreast of latest flood risk management information
- Raise awareness of climate change, adaptation and sustainability guidance
- Seek expert involvement to deliver sustainability
- Promote good surface water management principles for development
- Establish policy for LLFA consultation on planning applications
- Incorporate critical drainage zones into planning policy
- Agree how the SAB function will operate
- Develop a Lancashire-specific SuDS guide
- Build capacity
- Obtain information on flood risk assets
- Develop and populate record and register of assets
- Develop enforcement policy and procedure for drainage assets

Medium Term (Delivery anticipated within in 1-3 years)

- Implement a programme of SFRA review
- Promote SuDS
- Set the framework for a ‘no-regrets’ culture of sensible works
- Seek pilot study opportunities
- Develop asset management strategy
- Develop asset designation policy and procedure
- Raise awareness of asset owner responsibilities

Long Term (Delivery anticipated in 3+ years)

- Separate foul and surface water sewers

Abbreviation

Abbreviation	Definition
AEP	Annual Exceedance Probability
BC	Blackpool Council
CFMP	Catchment Flood Management Plan
CIL	Community Infrastructure Levy
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EU	European Union
FCERM	Flood, Coastal and Erosion Risk Management
FMfSW	Flood Map for Surface Water
FWMA	Flood and Water Management Act (2010)
IDB	Internal Drainage Board
LCC	Lancashire County Council
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
LRF	Local Resilience Forum
MoU	Memorandum of Understanding
PFRA	Preliminary Flood Risk Assessment
RMA	Risk Management Authority
SAB	SuDS Approval Body
SFRA	Strategic Flood Risk Assessment.
SPG	Supplementary Planning Guidance
SuDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
UKCP09	UK Climate Projections 2009
UU	United Utilities

Glossary

Term	Definition
Annual Exceedance Probability	A flood or rainfall event with a 1 in 100 (1%) chance of being exceeded in any year has an Annual Exceedance Probability (AEP) of 1/100 or 1%.
Aquifer	A source of groundwater comprising water bearing rock, sand or gravel capable of yielding significant quantities of water.
Attenuate	Providing temporary storage or other measures designed to reduce the volume of surface runoff which could cause flooding. A particular focus is on reducing the peak flow.
Catchment Flood Management Plan	Catchment Flood Management Plans (CFMPs) are produced by the Environment Agency to give an overview of the flood risk in the primary catchments in Lancashire.
Civil Contingencies Act 2004	Defines Category 1 (who will be at the core of emergency response) and Category 2 (heavily involved in incidents that affect their sector) responders to any flooding emergency.
Climate Change	Long term variations in global temperature and weather patterns caused by natural and human actions.
Community Infrastructure Levy	A levy which can be charged by the council when new development occurs which is designed to cover the cost of new public facilities required as a result of the development.
Defra	Department for Food, Environment and Rural Affairs is responsible for national emergency planning for flooding.
EA	Environment Agency, which has a Strategic overview role for flood and coastal erosion risk management.

Flood	The temporary inundation by water of property or land not normally covered with water.
Flood and Water Management Act	Part of the UK Government's response to Sir Michael Pitt's Report on the Summer 2007 floods, the aim of which (partly) is to clarify the legislative framework for managing local flood risk in England.
Flood Risk Regulations	Transposition of the EU Floods Directive into UK law. The EU Floods Directive is a piece of European Union (EU) legislation to specifically address flood risk by prescribing a common framework for its measurement and management.
Fluvial Flooding	Flooding resulting from water levels exceeding the bank level of a river.
Groundwater flooding	Occurs when water levels in the ground rise above the natural surface. Low lying areas underlain by permeable strata are particularly susceptible.
IDB	Internal Drainage Board.
Land Drainage Act	Legislation to consolidate the enactments relating to internal drainage boards, and to the functions of such boards and of local authorities in relation to land drainage.
LCC	Lancashire County Council.
Lead Local Flood Authority	Local Authority responsible for taking the lead on local flood risk management.

Local Flood Risk	Flooding from sources other than Main Rivers and the sea, which principally concerns surface runoff, groundwater and Ordinary Watercourses. LCC and BC have responsibilities under the Flood and Water Management Act to manage flooding from these sources.
Local Planning Authority	The 12 District councils in LCC's area and BC as a unitary authority are responsible for determining local planning applications and must consult with the EA when making planning decisions.
Main River	A watercourse shown as such on the Main River Map, and for which the Environment Agency has responsibilities and powers.
Memorandum of Understanding	A document that describes the general principles of an agreement.
Multiple Benefits	As well as reducing the risks to people and property, flood risk management can bring economic, environmental and social benefits.
Ordinary Watercourses	All watercourses (including lakes and ponds) that are not designated Main River, and which are the responsibility of local authorities.
Partner	A person or organisation with responsibility relating to flood risk management for the decision or actions that need to be taken.
Pitt Review	Comprehensive independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England.

Pluvial Flooding	Flooding arising from direct rainfall run off (before it enters drains or watercourses or when it cannot enter due to capacity exceedance.
Preliminary Flood Risk Assessment	A report produced by LCC, BC and Blackburn with Darwen in response to the Flood Risk Regulations 2009 which summarises local flood risk across Lancashire.
Resilience Measures	Measures designed to reduce the impact of water that enters property and businesses; could include measures such as raising electrical appliances.
Resistance Measures	Measures designed to keep flood water out of properties and businesses; could include flood guards for example.
Risk	In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.
Risk Management Authorities	Organisations that have a key role in flood and coastal erosion risk management as defined by the Flood and Water Management Act 2010. These are LCC, BC (Lead Local Flood Authorities and Highways Authorities), District Councils, Environment Agency, United Utilities.
SFRA	Strategic Flood Risk Assessment. These are produced by each District to give an assessment of flood risk from all sources and its implications for land use planning.
Stakeholder	A person or organisation affected by the problem or solution, or interested in the problem or solution. They can be individuals or organisations; includes the public and communities.
Strategy	Under the Flood and Water Management Act 2010, LCC and BC have a duty to develop, maintain, apply and monitor a strategy for local flood risk management.

Sustainable Drainage Systems (SuDS)	are drainage systems which replicate as closely as possible the natural drainage from a site. Unlike than traditional piped solutions, SuDS aim to mimic natural drainage processes as much as possible. SuDS have several benefits including; reducing damage from flooding, improving water quality and protecting and improving the environment.
SuDS Approval Body	When enacted, LCC and BC will have a duty to establish a SuDS Approving Body with responsibility to approve drainage plans for new development and adopt and maintain SuDS.
Supplementary Planning Guidance	SPGs provide additional policy guidance to strengthen proposals adopted by the council.
Surface water/runoff	Rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving), and has not entered a watercourse, drainage system or public sewer. The term 'surface water' is used generically to refer to water on the surface and is often associated with periods of intense rainfall.
Surface Water Management Plan	A plan used to identify and manage the risk of flooding from local sources of flooding in a specific area.
Sustainability	In the context of this Strategy, the risk of flooding must be reduced now, but in a way which does not compromise the interconnected needs of the economy, society and environment in the future.
Sustainable Drainage Systems	Methods of management practices and control structures that are designed to drain surface water in a more sustainable manner than some conventional techniques.
Swale	A shallow vegetated channel designed to conduct and retain water, but also may permit infiltration. The vegetation filters particulate matter.
UKCP09	The UK Climate Projections provide climate information designed to help those needing to plan how they will adapt to a changing climate. The data is focussed on the UK.

Risk Management Authorities

Roles and Responsibilities	Lancashire County Council and Blackpool Council	Environment Agency
	Are the Lead Local Flood Authorities (LLFA) and Highways Authorities for their administrative areas	Strategic overview role
Main River Flooding		✔
Coastal Flooding		✔
Surface Water Flooding	✔	
Groundwater Flooding	✔	
Highway Flooding	✔	
Ordinary Watercourses	✔*	
Flooding from Sewers		
Reservoirs	✔**	✔**
Contact	0845 053 0011	0845 988 1188

*Ordinary watercourses within the IDB's area are managed by IDBs. All other watercourses are mana
** Reservoirs are largely owned by Water Companies who are fundamentally responsible for their ma
team has the responsibility for their risk assessment

Appendix 1: Roles & Responsibilities of Lancashire's Risk Management Authorities

Water Companies	District & Borough Councils	Earby & Salterforth Internal Drainage Board
Manages flood risk from sewers and reservoirs.	Retain existing powers to undertake works on ordinary watercourses, and powers to designate structures and features that affect flooding or coastal erosion.	is responsible for ordinary watercourses within their boundaries
		✔*
✔		
✔**		
0845 746 2200 United Utilities	Refer to Council website	N/A

aged by the LLFA.
nagement. The EA is responsible for regulating reservoirs, and the LLFA's Emergency Planning