



# Lancashire County Council External Scrutiny Committee – Climate Change and Flood Risk

Organisational Response and Resilience

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We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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# Organisational Response and Resilience

## I. Climate Change, weather conditions and flood risk in Lancashire

The latest climate change predictions for the UK, known as, the UK Climate Projections 2018 (UKCP18) illustrate a range of future climate scenarios until 2100.

In a 2 degrees temp increase scenario by 2080 we will see: winter rainfall increase by 8% summer rainfall decrease by 15%. If we don't keep any temperature increase to 2 degree's then this will raise to 30% or more. Intensity of rain both in summer and winter will increase by 25%. This is very significant for our urban drainage systems. Here in Lancashire, we will see significant changes in our rivers. The amount of water in the river and the speed at which it flows will increase by at least 30%.

A consequence of higher sea levels; more water in our rivers and faster flows in our rivers is that flood defences will be tested more often than ever before. Hence, they will need more maintenance than ever before. Our estimate is that maintenance costs will increase by at least 30%.

Sea Levels will rise and for the NW this could be 0.5m by 2300. In addition to overall level rise we will see increase height of storm waves as well. This increases the risk of flooding from the sea, and from other sources as drainage / river networks is inhibited by these raised levels. A further impact is that rates of coastal erosion will also increase.

Reducing emissions is critical to achieving a 1.5 or 2 degree's increase in average temperatures. Of equal is adaptation due to degree of changes that will happen irrespective of our degree of emission reduction. In November the Environment Agency published it's 3<sup>rd</sup> Adaptation Report under the Climate Change Act. [Climate adaptation reporting third round: Environment Agency - GOV.UK \(www.gov.uk\)](http://www.gov.uk). This report describes in more the critical need for effective adaptation, in relation to the areas of work within its remit, and how we must all go about this.

In terms of the current risk of flooding from rivers and sea the following figures summarise this by upper tier local authority level:

PROPERTIES AT RISK BY LEAD LOCAL FLOOD AUTHORITY					
	Total High	Total Medium	Total Low	Total Very Low	Total at Risk
Blackburn with Darwen Council	370	1,359	1,255	0	2,984
Blackpool Council	119	554	3,368	1,737	5,778

Lancashire CC	3,988	11,867	37,371	22,048	75,274
Lancashire total's	<b>4,477</b>	<b>13,780</b>	<b>41,994</b>	<b>23,785</b>	<b>84,036</b>

#### Risk of Flooding from Rivers and Sea (RoFRS)

Our Risk of Flooding from Rivers and Sea (RoFRS) product is a national flood risk assessment produced using modelling and local expertise. The modelling takes flood defences and their condition into account and maps the floodplain into 50m x 50m squares (cells). Each cell is allocated one of four flood likelihood categories to describe the chance of flooding each year.

#### Flood Likelihood Categories:

High - greater than or equal to 3.3% chance in any given year (1 in 30)

Medium - less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year

Low - less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance in any given year

Very Low - less than 0.1% chance in any given year (1 in 1,000)

#### PEOPLE AT RISK BY LEAD LOCAL FLOOD AUTHORITY

	<b>Total High</b>	<b>Total Medium</b>	<b>Total Low</b>	<b>Total Very Low</b>	<b>Total at Risk</b>
<b>Blackburn with Darwen (B)</b>	363	1,819	1,491	0	3,673
<b>Blackpool (B)</b>	69	1,121	6,962	3,910	12,062
<b>Lancashire CCC</b>	5,667	19,185	70,402	41,428	136,682
<b>Lancashire total's</b>	<b>6,099</b>	<b>22,124</b>	<b>78,856</b>	<b>45,338</b>	<b>152,417</b>

## II. All the Lancashire RMA's

### Key Responsibilities, Dutes and Powers of Flood Risk Management Authorities

Role	
<b>Environment Agency</b>	<ul style="list-style-type: none"> <li>• Strategic overview responsibility for all sources of flooding and coastal erosion.</li> <li>• Category 1 Responder.</li> <li>• Inform Government policy.</li> <li>• Develop the National Flood and Coastal Erosion Risk Management Strategy.</li> <li>• Responsible for managing flood risk from main rivers and to the coast.</li> <li>• Powers to request information.</li> <li>• Regulating reservoir safety.</li> <li>• Working in partnership with the Met Office to provide flood forecasts and warnings.</li> <li>• Raise Local Levy for the Flood and Coastal Erosion Project.</li> <li>• Power to designate structures and features.</li> <li>• Identifying opportunities to improve the environment for people and wildlife.</li> <li>• Contribute towards sustainable development.</li> <li>• Developing long term approaches to Flood and Coastal Erosion Risk Management.</li> <li>• Working with others to prepare and deliver Flood Risk Management Plans (FRMPs). FRMPs explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs, and set out how the Environment Agency, Lead Local Flood Authorities (LLFAs) and other Risk Management Authorities work with communities to manage those risks.</li> <li>• Provide advice on planning and development issues, including commenting on planning applications</li> <li>• Monitor and report on flood and coastal erosion management.</li> <li>• The Environment Agency has a strategic overview to ensure that decisions about the coast are made in a joined-up manner.</li> </ul>
<b>Lead Local Flood Authorities – Unitary and County Council</b>	<ul style="list-style-type: none"> <li>• Develop a Local Flood Risk Management Strategy.</li> <li>• Cooperate with relevant authorities in exercising flood and coastal erosion risk management functions.</li> <li>• Power to request information.</li> <li>• Maintain a register of structure and features affecting flood risk.</li> <li>• Contribute towards sustainable development.</li> <li>• Local Authorities are to manage flooding, water levels and coastal erosion in the interests of nature conservation, the preservation of cultural heritage or people's enjoyment of the environment.</li> <li>• Investigate incidents of significant flooding and publish the results, Section 19's</li> <li>• Designating flood risk assets</li> <li>• Ordinary Watercourse Consenting and Enforcement (by amendment to the Land Drainage Act 1991)</li> </ul>

	<ul style="list-style-type: none"> <li>• Undertake a statutory consultee role providing technical advice on surface water drainage to local planning authorities major developments (10 dwellings or more)</li> <li>• Play a lead role in emergency planning and recovery after a flood event.</li> </ul>
<b>Unitary Authorities and County Council</b>	<p>In addition to being Lead Local Flood Authority.</p> <ul style="list-style-type: none"> <li>• Category 1 Responder under the Civil Contingencies Act and must have plans to respond to emergencies, and control or reduce the impact of an emergency.</li> </ul>
<b>District Councils</b>	<ul style="list-style-type: none"> <li>• Category 1 Responder</li> <li>• Attending local partnership meetings to discuss flood issues in their area</li> <li>• Providing information regarding flood events which are reported to them by members of the public to the LLFA or other relevant RMA</li> <li>• Using their existing responsibilities to undertake works on ordinary watercourses 17</li> <li>• Maintaining watercourses for which they have riparian responsibility</li> <li>• Developing policies relating to flood risk management in their Local Plans.</li> <li>• Power to designate structure and features.</li> <li>• Contribute towards sustainable development.</li> <li>• Local Authorities are to manage flooding, water levels and coastal erosion in the interests of nature conservation, the preservation of cultural heritage or people's enjoyment of the environment.</li> <li>•</li> </ul>
<b>Highway Authorities</b>	<ul style="list-style-type: none"> <li>• Category 1 Responder.</li> <li>• 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.</li> <li>• Contribute towards sustainable development.</li> <li>• Responsible for ensuring that there is no increased flood risk from any roads and road projects.</li> <li>• Cooperate with relevant authorities in exercising flood and coastal erosion risk management functions.</li> </ul>
<b>Coastal Protection Authorities</b>	<ul style="list-style-type: none"> <li>• Coastal Protection Authorities manage flood risk from the sea under the Coast Protection Act 1949.</li> <li>• District and unitary authorities in coastal areas lead on coastal erosion risk management activities in their area. They are responsible for developing Shoreline Management Plans (SMPs) which provide a long-term holistic framework for managing the risk of coastal change on their section of the coast.</li> </ul>
<b>Water Companies</b>	<ul style="list-style-type: none"> <li>• Category 2 Responder.</li> <li>• Cooperate with relevant authorities in exercising flood and coastal erosion risk management functions.</li> <li>• Make sure their systems have the appropriate level of resilience to flooding, and maintain essential services during emergencies</li> </ul>

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|  | <ul style="list-style-type: none"><li>• Maintain and manage their water supply and sewerage systems to manage the impact and reduce the risk of flooding and pollution to the environment. They have a duty under section 94 Water Industry Act 1991 to ensure that the area they serve is “effectually drained”. This includes drainage of surface water from the land around buildings as well as provision of foul sewers.</li><li>• Provide advice to LLFAs on how water and sewerage company assets impact on local flood risk</li><li>• Work with developers, landowners and LLFAs to understand and manage risks – for example, by working to manage the amount of rainfall that enters sewerage systems</li><li>• Work with the Environment Agency, LLFAs and district councils to coordinate the management of water supply and sewerage systems with other flood risk management work.</li></ul> |
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### III. National Investment Programme

Total project expenditure for Lancashire in the last 6-year programme was £156m. This included £4m of Local Levy funding with £1.34m claimed by Local Authorities and £2.64m by the Environment Agency.

For the current 6-year programme the total project expenditure (indicative) will more than double to £325m. This includes £8.7m of Local Levy funding with £1.6m allocated to Local Authorities and £7.1m to the Environment Agency.

National investment rose from £2.6b in the last 6-year programme to £5.2b in the current 6-year programme.

- Investment in Lancashire in the last 6 years and current programme.
- Set in context in local and national programme
- Include the local levy programme.



**FCERM Capital Investment Programme (*beyond 21/22 non-consented*)**

<b>Year</b>	<b>Lancashire Local Authorities</b>	<b>Lancashire - Environment Agency</b>
<b>2021/22</b>	£17,210,000	£17,507,000
<b>2022/23</b>	£23,399,000	£36,554,459
<b>2023/24</b>	£36,270,500	£43,098,193
<b>2024/25</b>	£37,441,000	£27,218,539
<b>2025/26</b>	£37,441,000	£11,892,709
<b>2026/27</b>	£31,341,188	£34,005,350
<b>CSR Total</b>	£154,625,688	£170,276,250
<b>% of total TPE in partnership</b>	48%	52%

## IV. Emergency Planning / Lancashire Resilience Forum

The Environment Agency works closely with the Lancashire Resilience Forum throughout every stage of the emergency planning cycle in relation to flooding. Much of this work is undertaken collaboratively within Lancashire Resilience Forum Sub-Groups (the Flooding and Severe Weather; and the Risk Assessment Working Group). The stages of emergency planning include:

Stage	Description
1	Reviewing and assessing the flood risk. Identifying actions required.
2	Agree and plan actions to be undertaken
3	Complete actions by making changes to emergency plans and procedures. Design and implement system or training/exercise improvements
4	Undertake internal training and exercising with Environment Agency staff and develop, support and lead Lancashire Resilience Forum training and exercising
4b)	Enact training, exercises, and plans during live flood incidents
5	Measure performance, review and learn from exercises and incidents

The main plan used by the Lancashire Resilience Forum in relation to flooding is the Lancashire Multi-Agency Flood Plan (MAFP). The MAFP is reviewed at least annually or following activation or exercise. As this process runs on a regular cycle it can use the most up to date science. This enables the plan to be as robust as possible against the impacts of climate change. The Lancashire MAFP is split in to two parts. Part 1 covers generic information which is not area specific and applicable to all flood risk areas. It also includes information on how the plan is activated, notification cascade, stand down and recovery. Other relevant plans are linked within the main plan and references to those types of flooding not covered are made (i.e. flooding from sewers, burst water mains, reservoirs). Part 2 contains information relating to site/district flood plans, which includes information and procedures specific to the local authority area. The information found in Part 2 should be used in conjunction with Part 1 of the plan.

Through internal plans, procedures and incident management structures, the Environment Agency contributes to its MAFP responsibilities through its internal plans, procedures, incident management structures and multi-agency liaison roles. This means that the Environment Agency completes emergency planning roles including:

- information gathering of flood information
- assessing and sharing risks with multi-agency partners
- identify options to mitigate impacts
- undertaking actions such as on the ground operations
- warning and informing the pub