

www.lancmag.com

December 2016

Lancashire

& North West magazine



**Accrington & Blackburn • Garstang
Ormskirk • Windermere**

Flood Prevention: Questions and Answers

Cheshire's Lion Salt Works

Morecambe and Wise Unveiled

Kendal Mountain Festival Competition

Manchester's Olympic Parade

Moustache Madness

Seasonal Spectaculars

£2.45



Flood Prevention: Questions & Answers

By Andrew Harris with help from the Environment Agency



Excepting serious illness or injury it is hard to think of a greater misfortune than having your home flooded. People at risk of flooding – or being flooded again – question what can be done to prevent it. Answers can be complex but some combination of the following FIVE types of action can prevent homes being flooded:

BETTER PLANNING – There are examples of repeated flooding in just a few years when the theoretical risk was one in 100 years. Risk is being re-assessed having regard to our more volatile weather caused by global warming. Better predictions should result in the banning of housing development in areas likely to flood. Where development is undertaken flood defence measures should include surface materials that allow water to be absorbed.

RIVER & DRAINAGE CAPACITIES – Our rivers are the drains of the country. The National Rivers Authority recognised this priority but it was subsumed into the Environment Agency in 1996 and a subsequent European Directive prioritised the maintaining of habitats for wildlife. The traditional flood prevention method was to dredge from estuaries upstream to make river channels deeper and wider. The Environment Agency seemed to be in denial of this policy resulting in the capacity of rivers being reduced when weather trends increased the volume of water needing to drain to the sea. After unusually severe flooding of the Somerset Levels in 2013/14 the Agency responded to public and political pressure with a programme of dredging. Since then the Agency has

dredged and cleared rivers selectively removing 80,000 tonnes of mud and debris from Cumbria's rivers in the last year. There is a similar need for the capacity of man-made drains to match new demands.

BARRIERS – These are created to prevent rivers breaking their banks by raising the height of them. They can also channel water to other watercourses en route to the sea. Earth barriers are easily eroded by the power of driven water. Robust engineered solutions are needed.

ATTENUATION – A sudden downpour or rush of water needs somewhere to go quickly then be released at a rate with which drains can cope. This process is called attenuation and in recent years many new-build projects have included large

underground caverns for this purpose. There is now much discussion about using upland farm fields and urban surface car parks in the same way. This need is urgent.

ADAPTING BUILDINGS – All options for existing buildings are essentially defensive such as solid floors or blocking air bricks and raising electric fitting above any expected water level. If new buildings must be constructed in flood risk areas they should be at a raised level and incorporate effective barriers against flood water.

The Environment Agency was invited to respond to this summary and has kindly provided the following statement:

“Last winter’s devastating floods across the north of England saw the wettest month ever recorded in the UK with exceptional amounts of rainfall and record river flows flooding around 17,000 homes and businesses. Our flood defences protected 12,500 properties during Storm Desmond and 10,900 during Storms Eva and Frank. The emergency and public services, supported by the military, ensured people were assisted and cared for throughout the response and recovery phases of the emergency.

Since last December the Environment Agency, working closely with local communities, government departments and partners, has taken action to ensure that those affected, as well as the wider public, are better protected against future flood events.

A massive amount of time and effort has gone into investigating the cause and extent of the flooding in all of the communities impacted by flooding in Cumbria and Lancashire. We have provided data and evidence to over 60 lead local flood investigation reports and helping lead local flood authorities consult with communities about options for the future.

Flood protection and prevention is a complex process and unfortunately there is not a quick solution.

DREDGING AND GRAVEL REMOVAL - Dredging, gravel removal and clearing channels are important parts of the Environment Agency’s maintenance regime and over the past two years the Agency has spent £21 million on dredging and gravel removal.

We assess the value of dredging and gravel removal carefully on a location

by location basis and carry it out where it will benefit the most people and properties. In many cases, however, it is not the best long-term solution because gravel and silt build up again and other measures such as building walls or storage upstream may be more effective. Removing too much gravel can run the risk of destabilising river banks and increasing flood risk.

The Environment Agency regularly checks gravel build up at key locations and removes it if it impacts local flood risk. A programme of work is underway to remove the gravel washed downstream during the winter floods. To date in Cumbria over 100,000 tonnes of gravel has been removed and this process is ongoing.

Dredging is just one of a number of tools that can be used by the Environment Agency and landowners to manage flood risk. Other solutions could include providing better flood storage upstream, slowing down the flow of water, using land management techniques or building traditional hard defences such as flood walls.

We work with landowners and local communities to help them understand all the options available and work to ensure that any flood management undertaken at one location does not adversely impact on people in other parts of the river system.

PLANNING - The Environment Agency acts as a statutory consultee commenting on all major proposals for major development in areas that are at medium or high risk of flooding from rivers or the sea. However the final decision does not sit with the Environment Agency. We provide the planning authority with responsible information and make recommendations; but planning officers and committees are under no obligation to abide by our advice.

In the majority of such planning applications our flood risk advice is taken on board by local Planning Authorities. Last year over 98% of applications for new homes were decided in line with Environment Agency advice.

FLOOD DEFENCES - In the March 2016 budget the government announced an additional £700 million in funding which will enable us to do even more for local communities across the country. We’ve already allocated some of this money to spend on communities affected by the winter



ABOVE: Businesses suffered too: Lancaster’s Lansil Industrial Estate and Sub-Station under water
RIGHT: The Environment Agency removing gravel at Keswick
FAR RIGHT: Flooding in Whalley.
Picture courtesy of Lancashire County Council





ABOVE: the Ribchester Arms was flooded too. Picture courtesy of Lancashire County Council. RIGHT: The Army and the RAF helped with emergency flood relief. Picture courtesy of the MoD (Army). BOTTOM RIGHT: Daniel Bond, the Environment Agency's Flood & Coastal Risk Manager for Cumbria & Lancashire

floods including £150 million for specific schemes in Cumbria and Yorkshire.

Between January and June 2016 we completed more than 120 schemes as part of the 6-year capital investment programme which better protected nearly 48,000 homes from flooding. A further 12 projects were completed between July and September 2016 better protecting an additional 7,500 homes from flooding. By 2021 we will spend £2.5 billion to build new flood schemes which will better protect 300,000 homes.

The extra funding also means that we are spending more than £1 billion on maintaining the nation's existing flood defences over the next 5 years.

The Government's National Flood Resilience Review has awarded a further £12.5 million to the Environment Agency and £750,000 to the Fire & Rescue Services to help the country be better prepared for extreme flooding events. As a result the Environment Agency will have four times more flood barriers compared to last winter. From October 2016 this additional 32km of temporary barriers is located in key depots across England and available to be deployed to boost flood defences wherever needed.

ADAPTING BUILDINGS - We are ensuring that people and properties are as prepared for and resilient to flooding as possible – and that action is taken in advance so that life can get back to normal as quickly as possible after a flood. A network of Community Flood Action Groups has been established across Cumbria and Lancashire to give advice and

to share knowledge and ideas. It may not be possible to remove the risk of flooding totally so it is vital that communities and businesses proactively prepare their own individual flood plans, make their own premises more resilient and sign up to our Flood Warnings.

... AND FINALLY - The Environment Agency actively encourages all people to check their flood risk on their website or www.flood-warning-information.service.gov.uk or sign up for free flood alerts by calling the 24-hour FLOODLINE 0345 988 1188 or follow @EnvAgency and #floodaware on Twitter for the latest flood updates."

Andrew Harris FRICS FCIM (www.andrewharris.co.uk) is a chartered surveyor with experience in planning, development and flood prevention works in our region. He gratefully acknowledges the help and response of Daniel Bond and Michelle Wiggins of the Environment Agency in the north west. Pictures are courtesy of the Environment Agency unless otherwise stated.

