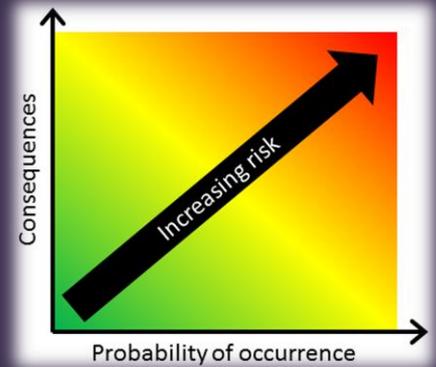




e-Bulletin #9

We often talk nowadays of flood risk management. But the addition of the word *risk* is relatively new, and as a way of thinking it is revolutionising the way we manage flooding. In this bulletin we explore what we mean when we use the word *risk*, and the implications it has for managing future flooding in Hebden Bridge.



In this bulletin:

- What risk is and why we should be thinking about it?
- Risk in Hebden Bridge

Why risk is important for Hebden Bridge?

Given that the environmental system is complex, it is understandable that flood defences were designed to withstand the 'design flood' – a hypothetical event of a specific magnitude.

A risk-based approach works to reduce the risks from a much wider range of flood events. Given the different flood hazards that Hebden Bridge faces (i.e. from both the river and from surface water), and the threats of climate change, an approach that considers a host of measures to reduce the severity of flooding is key. Implementing such an approach involves a partnership of the authorities and stakeholders, in order to provide bespoke and innovative solutions.

Risk

What is it?

Risk is the combination of the probability of a particular event, and the consequences of that event if it occurred. If we consider pupils' behaviour in a classroom, a single occurrence of exceptionally poor behaviour is disruptive, but equally so is low-level disruption that is in the background most or all of the time. Both of these scenarios would carry similar amounts of risk, the first would be in the top left corner of the graph (above) and the second would be in the bottom right.

Flood risk

Consequences can be desirable as well as undesirable; however flood risk has traditionally focussed on the probability of undesirable consequences. Risk assessment is used to identify and manage hazards, by reducing their probability of occurrence, their consequences, or by a combination of the two. We can also reduce risk by increasing the ability to recover from the effects of extreme events (increasing resilience).

Risk now forms a central part of modern 'whole-systems' approaches to flood management, and assessing risks and building them into a management response is seen as fundamental to gaining technical credibility, political understanding and public support.

Using risk in modelling

Risk is increasingly being built into models of flood risk, because it allows us to test a range of potential management strategies and compare options on their cost and risk profiles. Practical tools are being developed by DEFRA and the Environment Agency which make use of integrated flood risk management, but there are barriers to taking up this approach. Many practitioners feel that risk techniques are currently over-complicated and this increases the tendency to feel sceptical about their credibility. Finding an elegant and simple way to represent risk in models remains an ongoing challenge for the flood risk community.

Next steps

I look forward to welcoming you all to the third modelling workshop, at The Terrace Room, Hebden Bridge Town Hall, on Tuesday 17th September. Refreshments from 6:45pm for a 7pm start. Please RSVP if you haven't yet done so. If you require any more information or an agenda please drop me an e-mail.