

Sniffer Flood Risk Management Conference 2017: Summary Report

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Introduction

Sniffer's annual Flood Risk Management Conference returned to Edinburgh and Our Dynamic Earth in February 2017 for its twelfth successive year. The word of the moment was 'change': what changes to policy and practice have Scotland's flooding community made to reach this point; what changes can we expect in the future; and what further changes should we make to prepare for these new challenges.

With a sold-out audience of three hundred flood risk managers, researchers, engineers and community engagement specialists, and a bustling marketplace full of interactive demonstrations and poster presentations, we were sure we could find the answers. But did we have the right questions?

This was the challenge from [David Pirie, SEPA Executive Director](#), as he opened the main plenary session on Day One with a reminder that the long-term estimate of annual damages due to flooding in Scotland is £250million. [Steven Archer of Aberdeenshire Council](#) put these big figures into their human context with his detailed overview of the disruption caused by 2016's Storm Frank in Aberdeenshire and the admirable efforts - some still ongoing - to repair the damage and return people to their homes. Despite the trauma caused to the 850 households flooded in Aberdeenshire during the storm, thanks to the efforts of all those involved Stephen was able to report that not a single flood-related injury or death occurred during the response to this extreme weather event.



Staying with last year's storms, in her key note speech, Roseanna Cunningham MSP, Cabinet Secretary for Environment, Climate Change and Land Reform, thanked all those who lent their expertise and hard work to the response efforts and revealed that at the height of the storms SEPA's Floodline service received over 135,000 enquiries in one day. As the Minister who guided the Flood Risk Management Act through the Scottish Parliament in 2009, the Cabinet Secretary celebrated the progress made in the last eight years and added the next step by announcing the publication of SEPA's new [Flood Warning Framework 2017-21](#).

Evolving evidence

The figure of 250 came up again – this time in years – when the conference was told the story of James Lancaster, the enterprising 17th Century captain and scientist, whose pioneering work proved that scurvy in sailors could be

prevented by eating citrus fruits. Despite the clear results, David Pirie explained it took a quarter of a millennium before Captain Lancaster's evidence was integrated into national policy through the Merchant Shipping Act of 1876. Reflecting on how far Scotland has come in flood risk management in recent years, [Philip Wright of the Scottish Flood Forum](#) was pleased to report we had not taken quite that long to embrace the need for a strong evidenced based policy framework.

However, as [Fiona McLay of SEPA](#) pointed out, our evidence base continues to develop and grow. As technology improves we must ensure we make the best use of this evidence and continually ask if we are leaving any gaps. To help us do just this, [Mark Le Page of Ordnance Survey](#) gave a demonstration of the new [OS MasterMap Water Network Layer](#), the most comprehensive map set of British watercourses ever developed, and showed how it can help flood managers keep ahead of the curve.

“What counts as an essential service and an acceptable disruption is changing. Are we protecting and valuing the right things?”
David Pirie

As well as data on physical factors, [Sarah Govan of ClimateXChange](#) brought the focus back to Aberdeenshire and showed how monitoring the cost of resources and staff time involved in responding to flood events is essential if we are to include accurate budget estimates for managing floods in the future.

These ever expanding data sets and powerful new information gathering systems hold significant potential to shape the future management of flood risk, but they also raise new questions: Have we reached a point, as some speakers and attendees asked, where we have enough data and evidence? And, if so, should the focus shift to using what we have in the most effective way? Whichever side of this debate we each take, with new challenges such as advancing climate change and demographic shifts coming downstream, we must ensure the choices we make leave us ready to face our uncertain future.

The way ahead

[Daniel Johns of the Committee on Climate Change](#) reminded us of the scale of the task to come by drawing on the example of the Thames Barrier. Built in response to the North Sea flood of 1953, the Barrier took 30 years to plan and construct, only becoming operational in 1984. Thus, planning and constructing such a project now would take us to just shy of 2050, by which time the impacts of climate change may have drastically altered the risks of flooding across the country.

When facing an uncertain future, [Steven Trehella of the Association for Consultancy and Engineering](#) encouraged the engineers in the audience to act boldly, embrace opportunities for experimentation and move away from 'end-point' thinking to an adaptive model of continuous improvement. Investing in 'And', will ensure

“We need good practice and good practise.”
Dan Matthews

that flood risk interventions deliver more than just flood protection and contribute to better places for our communities. Taking up this challenge, [Kiki Pattenden of Mott MacDonald](#) provided an example of this innovative spirit in the shape of a 9.5km dual purpose road tunnel and stormwater management system in Kuala Lumpur, which allows traffic to use the tunnel when dry and water to harmlessly drain down

it when floods strike. Closer to home, [Dan Matthews of RAB Consultants](#) showed how temporary flood barriers can be used to quickly respond to extreme conditions when permanent defences are either impractical or at risk of failing. These deployable measures, however, only work when people are trained to use them properly and are

given the opportunity to plan their response ahead of time. [Phil Emonson of JBA Consulting](#) showed how helping individuals to do just that, by writing personal flood plans, can give communities the chance to consider these factors with a clear head, ensuring they know exactly what to do when a flood strikes.

Investing in people

While recognising the value in setting aside time to plan for floods – from the national to the individual scale – the conference was united in the need to invest more in the most critical flood risk management resource of all: people.

Partnership working has been part of flood risk management in Scotland for some years now, but, as [Stuart Cullen of Clackmannanshire Council](#) explained, there may still be some flood managers who remain sceptical, at least until they experience the benefits of the collaborative approach first hand. Step forward [Rosie Walker and the Conservation Volunteers](#), whose community river monitoring project in Clackmannanshire helped turn the cautious into converts and set off a cascade of resiliency supporting actions.

“People are our greatest resource, so we need to invest in them.”
Steven Trehella

Again and again the examples presented showed that, when communities are given the opportunity to manage their own flood risk, they rise to the challenge. No better person to tell this story could have been found than [John Brown of the Falkland Flood Action Group](#). He explained that by getting organised, investing in personal protective equipment, helping Fife Council with monitoring and maintenance, and building links with local landowners to stop flooding upstream, they were able to dramatically improve flood resilience in their village. With a little help from [Kirsty MacRae and the Scottish Flood Forum](#), John and the other members of the Action Group showed how flood victims can transform into effective flood fighters.

While villages like Falkland are leading the way in active community action, [Bruce Whyte of the Glasgow Centre for Population Health](#), reminded us that not all communities in Scotland have equal capacity to respond. Gazing into the future with his crystal graphs, he posed the question: with an aging population and changing demographics, will socio-economic inequalities be the real determiners of who is most at risk from flooding in the future? [Lindsay Beevers from Heriot Watt University](#) built on this theme by breaking down flood risk into three components: exposure, resilience and susceptibility. Using this systems approach she highlighted that even people in areas of relatively low exposure to flooding may still be in need of significant support. With climate and demographic change expected to create newly exposed populations, with little experience of how to respond to flooding, she encouraged delegates to focus on what flood risk management ‘can do’, rather than merely ‘should do’ or ‘normally does. This will require embracing a cross disciplinary approach and working in close collaboration with all stakeholders.

“We have to look at flooding as a coupled human-physical system.”
Lindsay Beevers

[Peter and Shannon Kerr from Riverworks Ltd](#) took community engagement a step further in their Natural Flood Management project in Alwinton, Northumberland, by handing over construction of the scheme to the local landowner and local contractors. This approach was key to getting local buy-in for the scheme and the existing relationships between landowner and contractor allowed for cost savings over traditional methods. Similarly, [Jim Densham of RSPB Scotland](#) drew on a salt marsh restoration scheme in Nigg Bay to show how co-benefits work

both ways, with improvements primarily designed to promote habitats for wildlife also delivering increased flood protection, often at a lower cost than traditional methods. Examples such as this, and his own experience with floodplain rewilding projects in Moray, East Sussex and West Sussex, led [Ian Dennis of Royal HaskoningDHV](#) to turn the difficult question of funding on its head: rather than ask can we afford to take a collaborative approach to FRM, we should ask, can we afford not to! After all, every new partner brings new funding opportunities.

And more avenues for funding were not the only benefits identified from working in partnerships. There is also the chance to influence and build relationships with professionals in linked policy areas: surely a must in our ever more interconnected world. Luckily we had [Stephen Thomson from Transport Scotland](#) to give the view from the other side of the road. He didn't disappoint, giving ten key areas where closer collaboration can help improve flood management on the transport network. His number one recommendation was, of course, invest in people!

What does this mean in practise? For Stephen it meant taking care of the staff we have and ensuring that when people move on, institutions and organisations collect their accumulated knowledge to pass on to the next generation. He was not the only one thinking of next generations, as Pascal Lardet of SEPA showed with his timely question to the panel: As we change the way we do flood risk management, how should we change the way we train flooding professionals to reflect this brave new world?



Natural investments

When you invest, whatever the stake, you should expect a return. As [Jacqueline Fookes of Mott MacDonald](#) showed by using an ecosystem services approach to incorporate environmental systems into traditional cost-benefit analysis, this is as true for the natural environment as for anything else. [Derek Robeson of the Tweed Forum](#) agreed. With the tools now available to calculate the possible benefits of new approaches

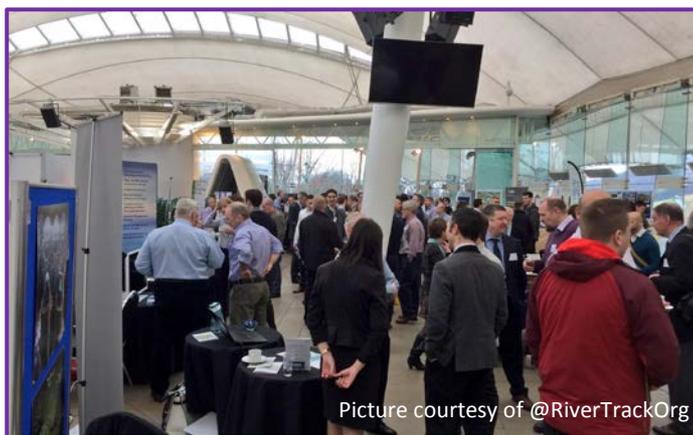
“We’re in a world where affordability is a key factor. ‘Who is going to fund this’ will always be a key question we have to be ready to answer.”
Steven Archer

to the natural environment, and the opportunity for widespread reform on the horizon, his big question was this: what do we want to pay our environment to do?

This ecosystem services approach proved ripe for debate, with some audience members in the Q&A asking if the monetisation of environmental processes is really the best approach: Do decision makers only respond to economics? And, do current tools accurately capture the true value of environmental assets?

Questions, answers and room to talk

These are all valuable questions to consider. But in order to answer them, and the many others raised over the conference, we need networks and the space to talk. Here at Sniffer we know from feedback on previous conferences the high value placed on these networking opportunities. The days' debates continued in the marketplace, the conference dinner and, for some, well into the night. On Day Two SEPA staff were on hand to lead a workshop on Flood Risk and Land Use Planning, bringing together professionals from both sectors to foster closer ties and created shared solutions. Beyond the conference these conversations need room to continue. Luckily, our final speaker, [Mark Wilkinson of the James Hutton Institute](#), is looking to provide exactly that, inviting attendees to join the new [Scottish Natural Flood Management Network](#) so they can continue to share learning and approach new challenges together.



Picture courtesy of @RiverTrackOrg

Telling our stories

Over the course of the conference, from the bustling marketplace and poster displays to the raft of inspiring speakers, it was clear Scotland's flood risk community have a lot of positive stories to tell. From championing the success of the partnership approach to sharing the benefits of new methods, how we chose to tell these stories will go a long way to determining how resilient to flooding Scotland will be in the future. It was fitting then to hold a special screening for delegates of Andy Clark's natural flood management documentary film, [High Water Common Ground](#). The film demonstrated how modern media can help to spread the word about the successful transformations in the way we approach flooding that are currently rippling through our country and communities. Next year we hope to have even more inspiring, exciting stories to tell, as well as new ways to tell them. Maybe you have one of your own. If so, [let us know](#).

This was a free event designed by Sniffer and the conference steering group: Debi Garft and Antje Branding of the Scottish Government, Elliot Robertson of SEPA, Dawn Lochhead of Scottish Water, Michelagh O'Neill of Sniffer, and James McLeod of Dumfries and Galloway Council. It was funded by:

