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and its
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The Self Rising Flood Barrier at Cockermouth
UK Flood Barriers - see page 10



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Emergency Pumps

Constructing Cockermouths flood barrier



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The declining Vole



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Safer passage for fish and eels



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Flood Risk



EFRA

Flood risk measures don't go far enough

The Environment, Food and Rural Affairs Committee (EFRA) has warned that whilst the Government's actions on flooding, to spur economic growth, are welcome the funding increases announced in the recent Spending Round do not meet rising flood risk.

In its report, EFRA, criticises the Government for failing to secure significant private sector funding for new flood defences. It warns that current funding allocations fail to protect agricultural land adequately which poses a risk to the security of UK food production. It also says that Local Authorities should have central government funding for repairing flood damaged roads and other infrastructure.



Launching the Committee's Managing Flood Risk report Committee Chair, Anne McIntosh MP, said:

"Record rainfall in the past two years has led to extensive flooding, cost the economy millions and caused disruption and distress to householders and communities across the UK."

"Additional capital funding for flood defences is welcome since every £1 spent on flood defences to protect communities spurs growth and delivers economic benefits worth £8."

"But spending on flood defences has not kept pace with rising risks from more frequent severe weather. The Chancellor must ensure that investment increases by £20 million year on year. We need that money over the next 25 years to protect homes and businesses better. Maintenance of these defences and effective dredging of watercourses must be a priority."

The Committee welcomes proposals for a new 'Flood Re' insurance scheme to make sure everyone can get affordable insurance. The scheme would be funded by a small levy, probably about £10 a year, on all household insurance customers, and the Committee insists that safeguards are introduced to keep the cost down.

Ms McIntosh added,

"Delay by the Government and the insurance industry in agreeing provision of affordable flood insurance has caused a lot of householders unnecessary uncertainty. The opaque cross-subsidy provided in the current Statement of Principles must be translated into a more transparent scheme with clear and robust governance arrangements."

With spending on maintenance of defences and watercourses at its lowest for many years, MPs also criticise 'short-sighted' reductions in revenue funding that threaten to undermine the benefits of capital investment in flood defences.

Has **FloodRe** taken into account Climate Change?

Not according to a recent LSA report!

Researchers at the Centre for Climate Change Economics and Policy and the London School of Economics' Grantham Institute on Climate Change and the Environment have issued a report saying that the proposals for Flood Re fail to take account the increased risk of flooding caused by global warming.

Flood re proposes to cap flood insurance premiums which will be linked them to council tax bands so that people in high risk areas flood area will know the maximum they will have to pay. All households insurers will pay a £10.50 levy which will be used to create a central fund to cover claims made for flood damage to building in high risk areas.

However, Dr Swenja Surminski, who co-wrote the report, is concerned that the scheme has serious shortcomings and does not consider the increased flood risk resulting from climate change.

The report states that:

"The design of the Flood Re scheme, which is expected to last until at least 2035, has not taken into account adequately, if at all, how flood risk is being affected by climate change,"

"For this reason, it is likely to be put under increasing pressure and may prove to be unsustainable because the number of properties in future that will be at moderate and high probability of flooding has been significantly underestimated."

The report has been submitted to DEFRA, in response to the consultation, who will be publishing its final report in October.



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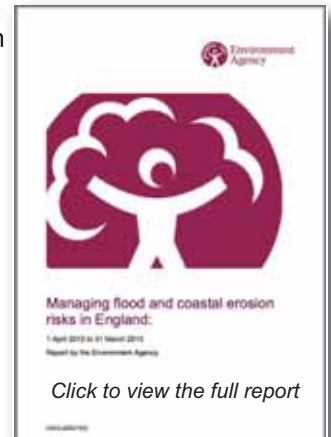


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Managing flood and coastal erosion risks in England report

The second annual report on Managing flood and coastal erosion risks in England has been published by the Environment Agency.

The report covers the period from 1 April 2012 to 31 March 2013 and highlights the challenges and achievements in flood and coastal erosion risk management.



The report looks at the scale of risk, and what steps are being taken to manage them, including the developments and innovations during the year. It also highlights the environmental benefits achieved in flood and coastal erosion risk management schemes and how Risk Management Authorities have worked together to reduce risk and responded to the impacts of the significant flooding during 2012-13.

The report includes contributions from a range of sources, including lead local flood authorities, Regional Flood and Coastal Committees, national groups, including the Association of Drainage Authorities and risk management authorities and other partner organisations, including water and sewerage companies, the Highways Agency, Network Rail and Public Health England.

Key points

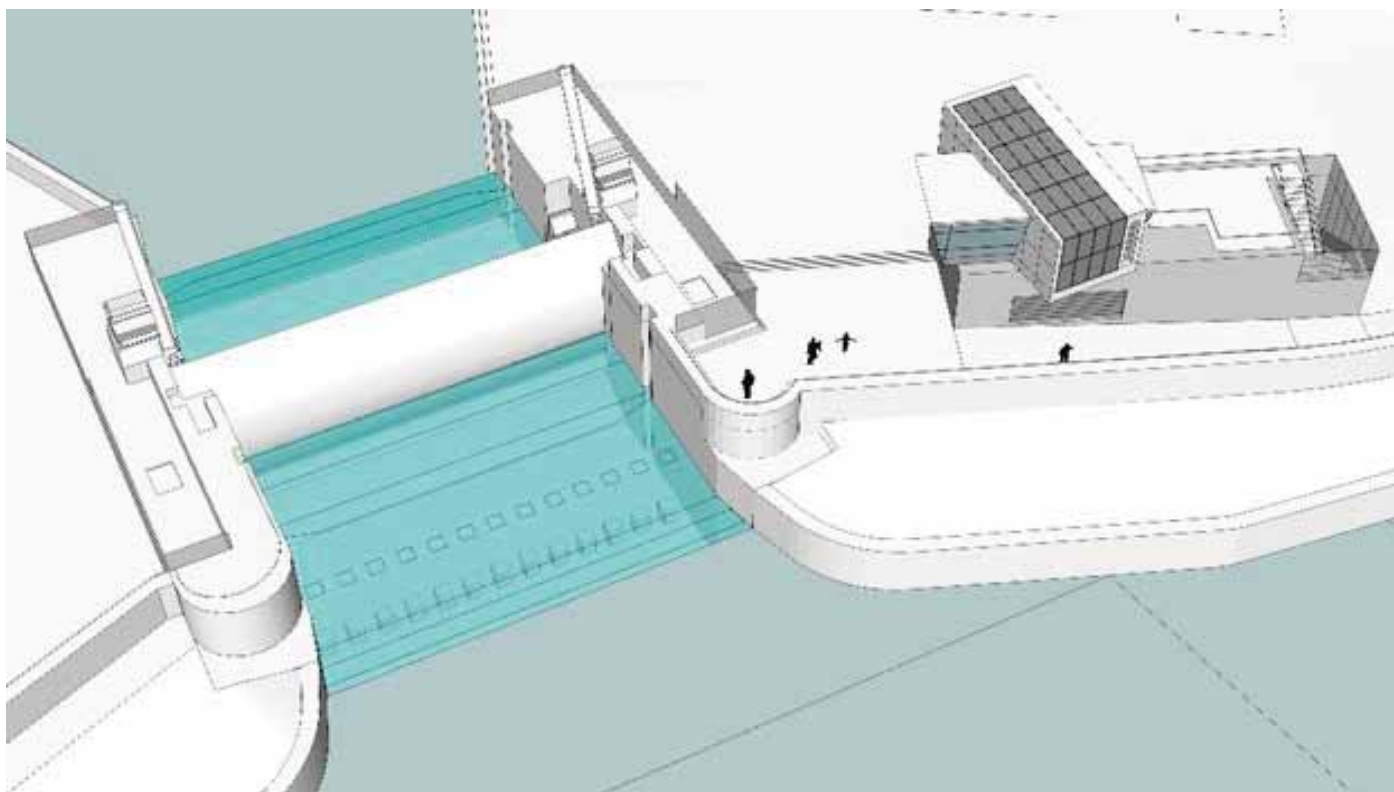
With some of the wettest conditions on record, the report highlights the fact that over 7,000 properties flooded and, during one week in November, 43,000 hectares of agricultural land were under water. However, despite the challenges over 200,000 properties were protected from flooding.

FCERM schemes completed provided £7.1 billion in benefits reducing the risk of flooding and coastal erosion for over 59,000 properties.

£9.8 million was invested across 83 projects, creating or improving over 350 hectares of water dependent habitat.

Partnership funding raised an additional investment of £8.9 million from both public and private sectors to supplement central Government funding.

Lead local flood authorities have continued to develop local flood risk management strategies, 5 of which have been completed and published and 80% in progress.



£38m Ipswich flood barrier

The scheme, costing £38.3m, will take four years to complete and will provide protection for up to a 1:300 flood event over the next 100 years and takes into account climate change. During a tidal surge the barrier will be raised to provide tidal flood protection to the centre of Ipswich. In addition, when the River Gipping is in flood it will be partially raised to reduce the bed of the New Cut scouring away.

The ground was officially broken by Dr Charles Beardall, Area Manager for the Environment Agency, Ben Gummer MP, Member of Parliament for Ipswich, The Mayor of Ipswich, Councillor Hamil Clarke MBE and Mark Pendlington, board member for New Anglia Local Enterprise Partnership (LEP).



The funding will come from a Flood and Coastal Risk Management Grant in Aid of £6 million, partnership contributions with the Environment Agency, Ipswich Borough Council and New Anglia Local Enterprise Partnership worth £7.7 million, £6.6 million from the New Anglia LEP and £1.1 million private investment. The

remainder of the money will be provided by the Defra Growth and Acceleration Fund.

Environment Minister Richard Benyon said: *"This scheme is fantastic for the people of Ipswich. It will protect over 2,000 homes and businesses from flood waters and boost the local economy by giving businesses confidence to come to the area."*

"We are providing more than £30 million to get this built, with our successful partnership funding scheme bringing in £6.6 million."

"This major investment is part of a £2.3 billion programme to tackle the risk of flooding and means that more money than ever before is being spent to better protect communities like Ipswich."

Dr Beardall said: *"This barrier will provide increased resilience for Ipswich against future floods."*

"It will enable growth and development, supporting the economic sustainability of this important county town."

"The flood defence will reduce the risk of flooding to many homes and businesses, plus key infrastructure such as the fire station and important power supplies."

Mark Pendlington said: *"This is a much deserved boost for Ipswich."*

"This scheme will help to protect homes and businesses in Ipswich, and secure the economic wellbeing and future development of the City."

"New Anglia LEP is pleased to be providing a £6.6 million loan to help put the tidal barrier in place, which along with government funding will safeguard 1,600 homes, 422 businesses and create up to 4,000 new jobs."

New technique for assessing the cost of flood damage

A new approach to calculating flood damage cost has been presented at the International Conference of Flood Resilience, which took place on the 5th to the 7th September at the University of Exeter.

The methodology combines information on land use with data on the vulnerability of the area to calculate the cost of both past and future flooding events.

Climate change, along with increased building on flood plains, has led to both a greater likelihood and a higher impact of flooding across the globe.

The method has already been employed to estimate the damage caused by heavy rain events that caused serious flooding in Barcelona in 2011 and in Dhaka, Bangladesh, in 2013.

As well as being used in the analysis of historical flood situations, the methodology is being used to predict the impact of future flooding, including health impacts of pollution caused by combined sewer overflows. Information on land-use from urban growth projections is coupled with hydraulic modelling results to assess the effectiveness of different strategies for future flood scenarios.

Flooding places enormous pressures on national economies, cities, communities and individuals. The short-term impacts may include many hundreds of casualties, displaced people, serious health problems and huge damage to property and infrastructure. Recovery and rebuilding in the affected areas can take years.

200 experts from nearly 40 countries have gathered at the University of Exeter to discuss the latest advances in flood management plans and flood resilience measures.

Conference Co-Chair Professor Slobodan Djordjević from the Centre for Water Systems at the University of Exeter said: *"The impact of flooding, especially in urban areas, can result in tremendous damage to buildings and contents, huge financial costs as well as serious health risks. In some cases floods can threaten human life, result in loss of industrial production and lead to societal disruption. This conference is an opportunity for researchers to meet delegates from city planning services, relief organisations, consultancies and software companies from across the world. It is imperative that we work together with our international partners to implement flood resilience measures and build robust flood management plans so that we can minimise disruption and loss of life in the face of inevitable future flooding."*

Professor Sir Steve Smith, Vice-Chancellor of the



University of Exeter, gave the opening address at the conference which was followed by a keynote lecture by the Taiwan Minister of the Interior, Professor Hong-Yuan Lee, who spoke about Taiwan's experience of the governance of climate change and aggravated natural disasters. Other keynote talks during the week included discussions on responses to major flooding in Thailand, flood insurance in Germany, resilient technologies and research highlights from the CORFU project.

The conference is a key dissemination event of the European Seventh Framework Programme project CORFU (Collaborative Research on Flood Resilience in Urban Areas, www.corfu7.eu) coordinated by the Centre for Water Systems, which is dedicated to researching and improving urban flood resilience from both European and Asian perspectives.

Conference delegates were also treated to the premiere of 'Resilience' – a stunning documentary about floods filmed in CORFU case study cities, Bangkok and New Orleans.



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The CORFU project

Collaborative Research on Flood Resilience in Urban areas (CORFU) is a major project involving 17 European and Asian institutions, funded by a grant from the European Commission, Seventh Framework Programme. Professor Slobodan Djordjevic of the University of Exeter is Project Coordinator.

The overall aim of CORFU is to enable European and Asian partners to learn from each other through joint investigation, development, implementation and dissemination of short to medium term strategies that will enable more scientifically sound management of the consequences of urban flooding in the future.

Flood impacts in urban areas – potential deaths, damage to infrastructure and health problems in the first place and consequent effects on individuals and on communities – and possible responses will be assessed by envisaging different scenarios of relevant drivers: urban development, socio-economic trends and climate changes. The cost-effectiveness of resilience measures and integrative and adaptable flood management plans for these scenarios will be quantified.

The CORFU project will look at advanced and novel strategies and provide adequate measures for improved flood management in cities. The differences in urban flooding problems in Asia and in Europe range from levels of economic development, infrastructure age, social systems and decision making processes, to prevailing drainage methods, seasonality of rainfall patterns and climate change trends.

The vision is for CORFU to use these differences to create synergies that will bring new quality to flood management strategies globally. Through a 4-year collaborative research programme, the latest technological advances will be cross-fertilized with traditional and emerging approaches to living with floods.

£20m investment for Hull flood defences

The Environment Agency is planning a £20m programme of flood defence improvement works that will include the renovation of existing defences and the creation of new defences along sections of the north bank of the Humber and the River Hull.

The works form part of the Environment Agency's wider Humber Strategy, its long-term plan for managing flood risk from the Humber Estuary in the light of climate change and a forecast rise in sea levels. The strategy seeks to safeguard the Humber's communities and economy through managing flood defences, and providing effective flood warning systems, and via linkages with new private development projects.

Working closely with Hull City Council, East Riding of Yorkshire Council and major landowners including Associated British Ports, the Environment Agency is also looking to work in partnership with developers, private business and other interested parties and is actively seeking external financial contributions.

The stretches being investigated include around nine kilometres of the River Hull, from its confluence with the Humber to the city boundary, and on the estuary frontage from Hessle to just downstream of Paull. Investment in the improvements is likely to span over a period of eight to ten years, after the plans have been drawn up and agreed by Hull City Council and East Riding of Yorkshire Council. The need for more urgent works will be under constant review in the short-term.

Work on the defences is expected to start in 2014, and will involve both localised small-scale repairs, and larger projects to both raise the height of lengths of defence and to improve their condition.



John Pygott, project executive for the Environment Agency, said:

"This work takes climate change predictions into account and seeks to provide a robust standard of protection for many decades to come."

"This will be a complex, long-term commitment. We are carrying out detailed studies to find the most comprehensive solutions and establish best value for the taxpayer."

"Funding partnerships are key. Through working with the wider community we can promote works which support regeneration in Hull and East Yorkshire and bring about real improvements to people's living and working environments."

Steve Wragg, Flood Risk Planning Manager at Hull City Council said:

"Our city benefits greatly from its flood defences along the Rivers Hull and Humber. Any proposed works to ensure these defences operate effectively now, and with the future effects of climate change, are essential. We will continue to work closely with the Environment Agency on these schemes."

Councillor Chris Matthews, cabinet portfolio holder for infrastructure, highways and emergency planning at East Riding of Yorkshire Council, said:

"The council takes the issue of flooding very seriously, whether it be from tidal, river, groundwater or surface, and continues to work closely with our partners, including the Environment Agency, to reduce the risk and provide our residents with a bit more peace of mind."



Cockermouth's Self closing flood barrier

Client:

Allerdale Borough Council

Contractors:

UK Flood Barriers
Volker Stevin

Total Scheme cost:

£4.4 million

Completion Date:

June 2013



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Cockermouth has been victim to some of the most voracious flooding events in recent history, most memorably in 2009 when the Rivers Derwent and Cocker both broke their banks after a record 314mm (12.3 inches) of rainwater fell in just 24 hours.

Water levels subsequently rose 2.5 metres and river flow reached 10 m/s, resulting in total damages of £276.5 million, with £129m of this to businesses and the local economy.

Project Detail:

A key section of an Environment Agency (EA) and local authority partnership funded flood defence scheme has recently been completed in Cockermouth, Cumbria. The scheme, afforded planning consent in early 2012 by Allerdale Borough Council, encompassed a number of flood protection solutions to protect homes and businesses from flooding. UK Flood Barriers (UKFB) were asked by the EA to provide their unique SCFB™ (self closing flood barrier) for a key section of the scheme along Rubby Banks Road, so that the amenity value of the river was not lost to local residents.

The severity of these floods was unprecedented. Although estimated to be a one-in 450 year occurrence the Environment Agency were looking for the most efficient, cost effective and sustainable solution to provide protection for a 'one-in-100-year event'.

Solution:

In operational use globally since 1998, the SCFB™ utilises the rising floodwaters to automatically raise the barrier; effectively using the problem to create the solution.

With an unblemished track record the SCFB™ is a highly favourable choice when specifying cost effective passive flood defence. Rapid onset flooding usually causes the greatest damage due to the lack of time to deploy the more traditional type of manually operated flood gates and "demountable" systems, typically stored off site, and requiring human intervention. The SCFB™ has the considerable advantage of not requiring any intervention during a flood warning, which would otherwise put lives at risk.

A design life of 100 years, and requiring minimal maintenance, the SCFB™ makes a strong economic case too. With zero operational costs the SCFB™ has none of the high on-going expenditure associated with manually operated systems. When not in use the barrier is protected underground and its seals are sheltered from the elements.

The area situated by the River Cocker is designated as a site of special scientific interest (SSSI). The Environment Agency and local residents were looking for not only a cost effective solution, but also one that would not adversely affect the unique landscape. Cockermouth holds much heritage value as a beautiful market town and it was vital to the scheme that this was maintained.

The SCFB™ provided a solution which would have little or no aesthetic impact on the surrounding environment. Installed beneath the ground the barrier only deploys when there is a threat of flooding. The river views so important to both residents and tourists would remain unaffected, whilst effective flood protection would be in place ready to deploy 24 hours a day.

The SCFB™ from the self-closing flood barrier range was installed by UK Flood Barriers, in conjunction with Volker Stevin for the Environment Agency. Working in conjunction with the existing flood wall, the SCFB™ was tailor-made to meet the exacting requirements of the project. The barrier was implemented along 115 linear metres of the riverbank and designed to rise in one singular continuous motion. On deployment the SCFB™ rises to 1 metre, providing the required one-in-100-year protection above the existing wall.

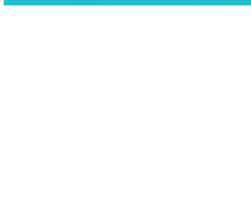
At the Environment Agency's request a telemetry system has been fitted to the barrier to advise when it starts to deploy and when it has fully deployed. This system automatically sends texts or emails to managers when the SCFB™ activates. It can also be linked to warning beacons, audible warnings and even CCTV. UKFB are providing the EA with a full 15 year maintenance contract to bring peace of mind that all costs are fixed for 15 years

The SCFB™ acts as a core element to the overall £4.4m flood defence scheme in Cockermouth, which will use a series of embankments, walls and gates to lessen the flood risk to 360 homes and 55 businesses.



*Left:
The UKFB
installation team
on site.*

*Below:
View across the
River Cocker of
the SCFB™
installation*



*Left:
Delivery & installation of the floating
wall into the reinforced concrete basin.*



*Right:
a street level view of the
SCFB™ fully deployed*





Royal HaskoningDHV wins major flood control contract in Colombia

Securing Atlántico and Bolívar regions and protecting people and the environment along Canal del Dique

International consultancy, engineering and project management service provider Royal HaskoningDHV is leading a consortium commissioned by Fondo Adaptación Colombia to rehabilitate the almost 400 year old and 120 km long Canal del Dique in Colombia, a navigation route of major socio-economic importance. By designing effective flood control measures, 1.5 million people living in the region will be protected from major flood events such as the disaster during La Niña that killed 174 people and left many others homeless end 2010.

The 22 million Euro project will take four years and is commissioned by Fondo Adaptación, the public institution founded by the Colombian President, Juan Manuel Santos, for construction and restoration of infrastructure affected by La Niña 2010-2011. This project focuses on the Canal del Dique, a 120 km canal connecting Cartagena Bay to the Magdalena River at the city of Calamar in northern Colombia. The canal provides a navigation route through a series of marshes and wetlands and is vital to the economy of the region. The project includes studies and designs for the restoration of the old channel and dikes, new locks and marsh improvements. Royal HaskoningDHV will be partnering with national engineering firm Gómez Cajiao.

La Niña

For the first time in Colombia's history, navigation locks and flow and sediment control structures will be conjoined within an integrated water resources and flood control project. The project will also take into account climate change effects such as more frequent and severe occurrences of La Niña bringing extra rain to the country. During La Niña in December 2010 the banks of Canal del Dique burst, flooding riverside towns causing casualties, rendering thousands of people homeless and also destroying crops. According to weather specialists, La Niña used to occur once every five to six years, but due to global warming, it has become increasingly frequent and stronger.

Photo: In December 2010 during La Niña the banks of Canal del Dique burst, flooding riverside towns causing casualties and rendering thousands of people homeless. The water left huge amounts of sediment on the land along the Canal.

Royal HaskoningDHV is also working with Dutch knowledge institute Deltares on this project for expertise in early warning systems and modelling.

Referring to the project, Carmen Arévalo Correa, Director General of Fondo Adaptación Colombia, said: "This is a very important step forward to find a definitive solution to the problems of the Canal del Dique."

The importance of this project is immense, as also Roelof Moll, Royal HaskoningDHV's Project Director, explains: "Our work to design effective flood control measures will help save lives and businesses, by preventing and mitigating the extensive damage by flooding. As well as protecting the people living along the Canal del Dique, this project will safeguard the natural environment and benefit the economy of Cartagena by boosting trade at its ports."

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Six Steps To Flood Resilience



A changing climate and the increasing prevalence of surface water flooding means we can no longer rely only on large defences to protect people and property.

Although structural defences will continue to play a role in mitigating flooding from rivers and the sea, new small-scale technologies can be applied to buildings to manage surface water flooding. They can be used in addition to large scale defences, or where defences are unaffordable.

Flood doors, flood guards and perimeter barriers are becoming a crucial tool to counter flooding caused by intense rainfall, however not enough people or organisations are aware of these technologies and how to use them.

To address this problem, new guidance has been developed on how to use these measures. A concise version is aimed at property owners, while a more expansive document is aimed at local authorities and flood risk professionals who may be procuring technologies on a larger scale.

The six step process is intended to guide users on how to implement new technologies from surveying, through to design and maintenance. It is based on the latest research and close working with industry partners to share good practice. It is hoped that the guidance achieves the longer term goal of improving the route to market for innovative technology to prevent flooding at the building scale.

The research project (SMARTeST) was produced in collaboration between The University of Manchester and The Building Research Establishment with Manchester Metropolitan University.

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June floods of 2013 along the Austrian Danube

In the year 2013, most of central Europe suffered a very wet spring season and in some regions, the month of May generated the highest levels of rainfall since weather records began. At the end of May / start of June, a complex low pressure weather system over the Adriatic Sea, coupled with a Mediterranean low over North Africa produced an exceptionally high level of rainfall intensity, followed by levels of flooding which were to be classified as the extreme events of the century. The hydrography of Austria recorded, in Vienna, the highest run off values ever taken since records began in 1830 at approximately 11,000 m³/s of run off, overtaking the previous record value of 10,500m³/s from the year 1899.

In fourteen market towns (or municipalities) including Linz, through the Machland via the power plant stage at Ybbs, and through the

Wachau to Kloster Neuburg, shortly before the gates of Vienna, demountable IBS flood protection walls were deployed as protection against the oncoming Danube floods across a total length of over 11km. In Linz in the year 2007, IBS handed over the first major system to the operators, the State City of Linz. At a length of almost one kilometre, the flood protection wall measuring approximately 2,250m² was erected with approx. 3,160 dam beams and approx. 310 posts; once erected, the Danube flooding level of up to 3.50m above road level could be resisted. The largest demountable flood protection system in Austria in terms of surface area was handed over in April 2010 in Weißenkirchen in the Wachau region. At a length of almost 3 kilometres, approx. 8,800 dam beams and associated posts are utilised, giving a total wall area of 6,350m².



The highest and most spectacular demountable wall was completed in December 2010 in Grein. With a total barrier height of 3.60m on a 1.0m-high base wall, the system protects the land behind it to a flood level of 4.60m at the upstream end of the site - a height which is equal to the upper storeys of the adjacent properties.

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The flood protection measures in the municipality of Grein were erected within the scope of the Machland dam project in the name of Machland Damm GmbH as one of a total of 6 demountable wall sections. On 25 August 2012, the main protection measures for the Machland dam were declared as completed.

Less than a year later in June 2013, it was proven that the locations of Linz, Mauthausen, Naarn, Mitterkirchen, Baumgartenberg, Saxen, Grein, Ybbs, Persenbeug, Spitz, Oberarnsdorf, Rührsdorf, Weißkirchen and Kloster Neuburg were able to successfully defend against the flood of the century through the deployment of a total of approximately 25,000m² of IBS demountable flood protection walls. In Grein, the flood level peaked at around 3cm below the top of the barrier, just before it would have overflowed the 4.60m-high protection wall. All of these systems were constructed in good time to their full heights and continued to remain entirely reliable whilst the peak river levels continued, as the flood run off and lowering of levels was extremely slow. Due to the superb performance of the IBS systems, it was clear to the affected communities and onlookers that they could place maximum trust in their local defences.

The drama of this event can only be realised in retrospect; the demountable flood protection

systems, which had only just been completed, were immediately subjected to the maximum assumed extremes. Rescue forces were required to conduct the largest possible logistics and construction management procedures, and residents were subjected to constant positive and negative prognosis, uncertain whether the protection heights would prove sufficient or would overflow. Superb teamwork from rescue forces, residents, authorities, politicians and the associated project engineers allowed each community to return to everyday life within the shortest possible time; businesses resumed operation, holidaymakers and visitors utilised the river promenades once again, and the property and belongings of many thousands of people remained undamaged.



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Stormwater & SuDS





Alex Stephenson,

Alex has over 37 years experience in stormwater drainage design and related issues.

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Talking SuDS

A Step Closer to Clarity on SuDS?

Important clues to the future of SuDS delivery in England and Wales emerged from the publication of the Water Bill and the commentary that accompanied it.

The Government has confirmed its aim to commence Schedule 3 of the Flood and Water Management Act in April 2014. This will make the right to connect surface water drainage to the public sewer conditional on approval of Sustainable Drainage Systems by new Local Authority SuDS Approving Bodies for developments over one property.

The Government's stresses its commitment to SuDS in its response to the EFRA select committee's scrutiny of the Water Bill, as well as its determination to make the legislation work effectively. The journey, it acknowledges, has been more complex than first expected and more work still needs to be done to ensure the concerns of all stakeholders are properly addressed.

The EFRA committee have repeated their frustrations about the delay in implementing SuDS, but with a promise to give local authorities six months' notice to start their new roles, it's hard to see how a date any earlier could be achieved. So, if you interpret this as a firm commitment, then this date is very welcome. However, as my fellow blogger Owen Davies has questioned: has the language changed from 'will' to 'aim to'? We also need to add the caveat that the regulation is subject to successful and timely progress through Cross Whitehall and Parliamentary Approval. The Government says it is working through issues raised during the consultation stages through cross-disciplinary 'task and finish' groups with local authorities, developers and the water industry working together to come up with an 'innovative and practical' solution, that will be satisfactory to all parties. Their recommendations will be revealed in the autumn.

In the meantime, the Water Bill has provided important clarification that sewerage undertakers can build and maintain drainage to slow down or prevent surface water entering a public sewer, using SuDS where possible. This is a significant indicator of the Government's commitment to tackle resilience of the sewerage and drainage networks to flooding with the advancing threats of climate change. In its response to the EFRA scrutiny the Government also commits to tackling other concerns, especially those raised by the construction industry to ensure the cost-benefits

are better understood.

The Government says the groups are working through issues to address the need for:

A robust evidence base for SuDS.

A set of agreed definitions of SuDS for the purposes of adoption by the SuDS Approving Body.

National Standards for SuDS and accompanying guidance. (A first draft of the National Standards was published for consultation back in December 2011). Guidance for developers and local authorities on the calculation and operation of non-performance bonds.

In my view, providing a framework for SuDS that demonstrates predictable and repeatable performance will be very welcome. In addition, clarification about the affordability of SuDS may also serve to dispel some unhelpful myths about SuDS being too costly to install. Further consideration will also be needed on planning for the costs for local authorities to maintain SuDS.

SuDS do not need to be costly and sometimes proprietary features can be used to mitigate against the land take of natural features such as ponds and artificial wetlands. Proprietary treatment solutions can also provide welcome low-maintenance solutions that are repeatable and predictable. Choosing from a full toolbox of natural and proprietary solutions can often help to achieve a good cost-benefit throughout the life of the SuDS feature.

It is to be hoped that the proposed definitions and any evidence base includes full consideration of proprietary features that can be used alongside natural solutions to deliver predictable and maintainable SuDS solutions. All of these measures signify important progress towards SuDS. But they still only address new development. With or without regulation, there's still a long road ahead to retrofit SuDS in urban environments, and particularly to encourage maximum uptake of SuDS across the highway network.

Hydro has made its own contribution to the cost-benefit debate by developing an online selection tool for surface water treatment in SuDS. It's designed to help users compare the cost benefit and pollutant removal outcomes for building a treatment train using a full toolbox of SuDS features, be they proprietary or 'natural'.

You can access the tool [here](#).

Contact Alex by email: alex.stephenson@hydro-international.co.uk
Telephone: 01275 878371

'Treatment Train' SuDS Tool For Surface Water Quality Goes Live

A UNIQUE new industry tool has been launched to help users explore the options for designing and building a surface-water 'Treatment Train' as part of Sustainable Drainage Systems (SuDS) in anticipation of growing water quality regulations.

The free-to-use Treatment Selection Tool, available at www.hydro-int.com/stormtrain/tool, has been developed by Hydro International in response to tougher environmental and planning requirements for SuDS that remove silts, sediments, oils and pollutants from surface water runoff.

To achieve required water quality on a new development, car park or highway, multiple stages of SuDS features may need to be used in sequence to achieve a so-called 'treatment train'. This approach is already established as the preferred method in Scotland and proposed new National SuDS Standards for England and Wales are expected to follow a similar pattern when they become law in April 2014.

Alex Stephenson, Director of Hydro's UK Stormwater Division explains:

"Many people who have a responsibility for designing, building or approving Sustainable Drainage Systems are currently developing their knowledge and understanding of surface water treatment best practice.

"We decided to develop a simple tool that can be used by anyone to investigate the full SuDS toolbox, selecting from both manufactured devices and natural features to build a treatment train.

The Tool then helps users to understand how well each combination would perform and the likely costs involved."

With the Treatment Selection Tool, users can specify the catchment type and receiving water body and then investigate 'what if' scenarios to build example treatment trains.

The Tool helps users understand the pros and cons of choosing different SuDS features.

The Tool calculates the consequent pollutant removal achieved, as well as working out capital and whole-life cost implications.

"Choosing from the whole SuDS toolbox of techniques using proprietary and natural features is the best way to deliver the optimum outcome for pollutant removal, depending on the site conditions," explains Alex. "Key considerations depend on factors such as the site and ground conditions, available land, construction costs and future maintenance and adoption."



Hydro International has developed the tool to support the launch of its Hydro StormTrain™ Series of surface water treatment devices. However, the Tool provides objective choices encompassing the full range of SuDS techniques and is based on established standard independent industry guidance.

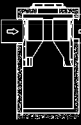
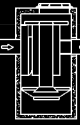
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£15m Rainscape scheme to manage surface water

Dŵr Cymru is investing £15 million in the Llanelli area as part of a new and innovative scheme to manage surface water. The scheme, known as RainScape, will reduce the amount of rainwater which flows into local public drainage systems reducing the flood risk.

The surface water management scheme will include installing attractive planted areas and new green space that will absorb the water reducing the amount of water entering the sewerage system by around 20%. The scheme is particularly needed in the area as Llanelli sees almost as much storm water in its network as Swansea, despite the fact that Swansea serves three times the number of properties, and three times the area compared with Llanelli.

The scheme was launched on Friday 21st June by Alun Davies, the Welsh Government's Minister for Natural Resources and Food and also Nigel Annett, Managing Director of Dŵr Cymru. Local MP Nia Griffith and Assembly Members, Keith Davies and Joyce Watson also attended.

Nigel Annett, Managing Director for Dŵr Cymru, Welsh Water said: *"The delivery of RainScape is a sustainable, future proof system that will significantly reduce the risk of flooding in the local area. We are proud of the fact that it is the first of its kind anywhere in the UK and it reflects our goals to prevent sewage flooding, reduce our impact on the environment and provide our customers with a first class service."*

"The examples of Malmo, Sweden, and Portland, USA, which are guiding our work, clearly demonstrate that short term disruption now will bring significant long term benefits. In both instances the sustainable drainage schemes have reduced flooding, enhanced biodiversity and kick started regeneration. We expect this innovative and sustainable approach to bring similar benefits to Llanelli and the surrounding area."

Alun Davies, Minister for Natural Resources and Food said: *"This scheme demonstrates the Welsh Government's commitment to protect the people of Wales from the risk of flooding and safeguard our*

natural environment from pollution. "As well as providing a practical solution to reducing the impacts of excess surface water in Llanelli, the scheme will also benefit the community through the creation of new jobs and improvements to the local landscape."

"I am greatly encouraged by the innovative approach of this project, which is the first of its kind in Wales."

Carmarthenshire County Council Executive Board Member for Technical Services, Cllr Colin Evans said: *"The authority are very pleased to be working with Dwr Cymru Welsh Water and other partners in delivering solutions to problems brought about by climate change; this scheme is innovative and a sustainable solution, one of a number required to meet challenges brought about by changes in our environment while also accommodating economic growth."*

This scheme is part of an overall £1.5bn investment by Welsh Water between 2010 and 2015.

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River restoration & management





Image courtesy of Fen Group

Streamlining channel maintenance



The Minister for the Natural Environment and Fisheries, Richard Benyon, has confirmed in a letter to stakeholders the development of a more streamlined flood consenting system by mid-2015.

The proposals are designed to make it easier for farmers and landowners to undertake dredging and other watercourse maintenance and will be trialled on main rivers (those regulated by the Environment Agency) in seven pilot areas starting this autumn for one year.

Possible pilot areas include:

- Alt Crossens in Lancashire
- River Duckow in Shropshire
- River Brue in Somerset
- River Idle in Nottinghamshire
- East Riding of Yorkshire
- West Thames catchment
- Anglian Region

The move had raised concerns, from several environmental groups, that this could be seen as the Government withdrawing regulation of watercourse dredging on main rivers and the regulation changes could bring uncoordinated river maintenance leading to damage to wildlife, legal challenges for landowners conducting the maintenance operations, and even increased flooding.

The minister made it clear that there are a number of environmental safeguards built into the draft Regulatory Position Statement and guidance will be provided to support the adoption of best practice by farmers and landowners. Those conducting the works may be liable to prosecution even if they inadvertently kill a protected species, despite taking all precautionary steps.

National improvements are being made to deliver better communications and partnership working around watercourse maintenance. The Environment Agency now offers information and advice on watercourse maintenance through its National Customer Contact Centre and is also producing local maps setting out its maintenance plans across the country to provide greater clarity. Working in partnership with Natural England, NFU and the CLA, a new guide 'Watercourse Maintenance – A guide for Farmers and Landowners' has been developed.

The new trials aimed at unburdening farmers of bureaucracy when undertaking low-risk watercourse maintenance activities to help reduce flood risk have been given the backing of the NFU.

NFU Deputy President, Meurig Raymond said:

"There are many situations where farmers are able to carry out maintenance of watercourses, and we have been calling for a simpler system for them to get consent to do so. I am therefore pleased that the Ministers announcement goes a long way towards delivering that."

"The damage and losses suffered in last year's floods remain only too clearly in the minds of many farmers. These trials will help those who are in a position to undertake dredging or other maintenance; but it will also be important that Environment Agency funding is available where it is appropriate."

Bedford Pumps supply Bedford's pumps

Bedford Pumps Ltd is nearing completion of a £500,000 contract with main contractor VolkerStevin to design, supply and install seven pumps to Bedford Pumping Station in Leigh, Greater Manchester.



Bedford Pumping Station was constructed in 1943 after mining subsidence led to flooding in the area. The pumping station was commissioned in 1964 and fitted with pumps manufactured by Bedford Pumps' predecessor, Gwynnes Pumps. Gwynnes was acquired by W H Allens in 1961, becoming Allen Gwynne pumps with a worldwide reputation for high quality pumping plant. Bedford Pumps was formed by former members of W H Allens when the company closed its Pump Department within the town. 25 years on Bedford Pumps is now considered the UK's leading manufacturer of large submersible and conventional pumps for the Land Drainage industry.

Before the refurbishment, Bedford Pumping Station had been operating with seven of Gwynne's submersible wet well suspended bowl pumps, but as the capacity of the Bedford Basin is relatively small the station was receiving significantly more flow than it could pump. The refurbishment of the station is part of a £2.0m flood

defence scheme funded by the Environment Agency and will contribute towards enhanced flood protection to 105 properties, whilst maintaining the standard of protection to a further 670.

Bedford Pumps is installing seven pumps in total for VolkerStevin as part of the Environment Agency contract; three large Storm pumps, two medium Storm pumps and two DWF (Dry Weather Flow) pumps. As per the contract terms, the pumps have been designed to utilise the existing pipework at the station, but the existing pumps, motors and spindles will be removed and decommissioned. The maximum total flow for the pumping station is limited to 9,400 litres per second which will be achieved by a sequencing of the pumps at storm levels. The largest Storm pump, a Submersible Canister design will operate at 2,300 l/s at 6.8m head via a 240kW 8 pole motor. The slighter smaller Storms supply 1,400 l/s at 7.03 with a 130kW 10 pole motor.

The DWF pumps provide a duty of 350 l/s at 7.76m head and are designed to be hydraulically,



mechanically and electrically interchangeable with the DWF pumps that BPL manufactured for Liverpool's largest pumping station, Altmouth, in 2011. Altmouth P.S. was a landmark job for the Environment Agency and has been proven to reduce the risk of flooding to more than 9000 properties and provides protection to approximately 20 square miles of grade A agricultural land.

Bedford Pumps is delighted to be working with main contractor, VolkerStevin, to upgrade Bedford P.S. for the Environment Agency and anticipate completion by the end of 2013.

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River Rhine commended for river basin management

The River Rhine has won the first ever International River Foundation (IRF) European River Prize, which is given for remarkable achievements in integrated river basin management. The other finalists were the Órbigo River in Spain, the Upper Drau in Austria, and the Mura-Drava-Danube in Central Europe.

River basin management of the Rhine has improved dramatically in recent years, following decades of degradation and a devastating chemical accident in 1986. The river runs through Switzerland, France, Germany, Luxemburg, Netherlands, Austria, Liechtenstein, Belgium and Italy.

The International Commission for the Protection of the Rhine (ICPR), the countries and local authorities in the basin have dramatically improved the water quality of the Rhine with better management of urban wastewater. In addition, a large area of floodplains has been restored in the densely populated Rhine basin over the last 15 years, thanks to new integrated policies.

The International River Foundation award was presented in Vienna on Thursday 12 September. An expert from the European Environment Agency (EEA) participated in the Judging Panel, alongside other experts from across Europe.

The panel selected the Rhine as the winner as they were able to clearly demonstrate leadership, sophistication and an integrated, complex approach to river basin management. They also recognised that the Rhine had overcome a range of challenges and achieved real on-ground improvements in river and species health.



Rivers under pressure

The IRF Award process highlights the fact that human activities use a lot of water, depleting many rivers. For example, across the European Union, agriculture uses about a quarter of water diverted from the natural environment, though this can be up to 80% in southern Europe. This could be reduced by making irrigation more efficient, according to an EEA assessment published last year. While there has been some progress in reducing pollution from farming, pollution from such 'diffuse' sources remains a significant pressure in more than 40 % of Europe's river water bodies. Pollution also comes from 'point sources', such as discharges from wastewater treatment plants and industry.

Wastewater from sewage systems often overflows during heavy rains. When the shape of rivers is changed, this affects the ecosystems living from the river – for example fish and other animals may not be able to migrate when there are dams and other barriers in the way. The EEA estimates there are several hundred thousand barriers in European rivers, in many of these water bodies their natural continuity is interrupted every second kilometre. Such 'hydromorphological pressures', together with pollution are two of the main pressures affecting ecological status in European rivers. Overall, the European Commission estimates that more than half (57 %) of the river water bodies in Europe have not yet achieved 'good ecological status', something which they are committed to by 2015 under the Water Framework Directive (WFD).

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Restoring Fleet Pond



Fleet Pond is Hampshire's largest freshwater lake and since 2011 has been subject to the most extensive restoration works in over 70 years.

The lake is classed as a Site of Special Scientific Interest (SSSI), but over recent years has experienced a decline in its ecological and physical condition due to the excessive build up of silt, brought in from the Gelvert and Brookly Streams. The silt build up has caused key habitats to deteriorate and the lake to decline into an unfavourable state and is currently failing to achieve Good Ecological Potential under the Water Framework Directive.

A Project Steering Group was established by Hart District Council in 2007 and includes Natural England, the Environment Agency, MoD and Fleet Pond Society. With a total project cost of £1.1 million, the main drivers behind the project are the restoration of habitat and long-term water quality improvements.

Contractors, WM Longreach, have dredged several tonnes of material out of the lake, deepening it in several areas up to 2 meters from what had previously been 0.7 metres. 20 islands have also been created which will help break up the wind and wave action across the lake to stop sediment getting stirred up and will create new and diverse habitats to encourage plant growth in the lake.

A new channel and associated wetland habitats have also been created, to divert some of the stream into the adjacent marshland and an existing ditch system. The flow of water can be controlled by sluice gates to either let all of the water flow down the Gelvert Stream, as happens now, or let a reduced amount of water flow down with the excess flow being diverted into the new channel where it will slow and release some of its sediment load.

Prestigious engineering award for the Fleet Pond restoration scheme

The Fleet Pond Restoration Project was shortlisted for an Institute of Civil Engineers' Engineering Excellence award for 2013, and came out winners of the **Sustainability and Environmental Management Award** at the annual ceremony.

The project was submitted by WM Longreach with full support of the project team and the Award recognises the excellence of the works carried out.



Back left to right: Steve Lyons and Louise Greenwood the HDC Countryside Service, Mavis and Colin Gray from the Fleet Pond Society, David Ryan from WM Longreach, Becky Burvill Johns Associates. Front left to right: Adam Green HDC L&EP and Project Lead, Damian McGettrick Director WM Longreach.

Vole population in decline due to habitat loss, droughts and mink

Records reveal water vole presence down 22 per cent in two years.

England's population of water voles could have declined by a fifth since 2011, the Environment Agency and the Wildlife Trusts have revealed.

New maps published suggest that while there are some strongholds where water voles continue to thrive, the overall population in England is struggling and could have reduced by up to 22 per cent. Populations in the south west, the south east, the Lake District and parts of the midlands are especially vulnerable.

Habitat loss, mink, extreme weather and drought

Populations continue to disappear due to long-term habitat loss, mink predation and extreme weather events, including last year's spring drought.

Creating and maintaining large-scale good quality habitat is key to ensuring the species' survival. Reintroduction schemes, combined with mink control programmes and habitat management are providing a lifeline for this much-loved species.

Alastair Driver, the Environment Agency's National Conservation Manager and Chair of the UK Water Vole Steering Group, said:

'Creating new habitat helps protect our native species, like water voles and otters, and helps tackle climate change. The Environment Agency has created nearly 5,000 hectares of wetland and river habitats in the last 10 years and we hope to double this in the next 10. Added to this, our rivers at their healthiest for over 20 years, but control of the American mink is essential if water voles

are to benefit from these healthier rivers and new habitats.'

Paul Wilkinson, The Wildlife Trusts' Head of Living Landscape, said:

'This latest information from the National UK Water Vole Database and Mapping Project is a real cause for concern. Not enough is being done to secure this charismatic species' future. In part, the new data reflects a reduced survey effort over the last few years, linked to a reduction in available funding for water vole conservation work. There is clear evidence from some areas, in the south of England for example, that water voles are disappearing fast.'

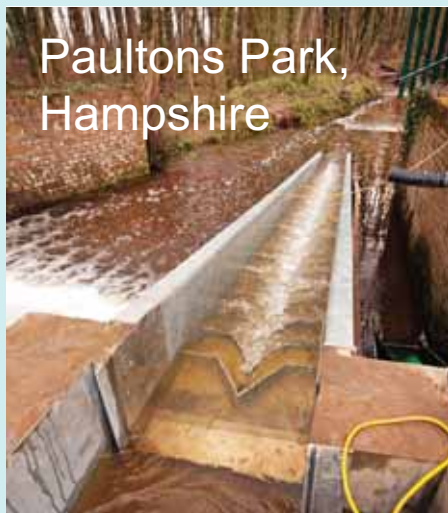
Strongholds of water voles still remain

'Strongholds do remain, and these are often located in areas which support more extensive wetland habitats, such as the fens, or headstreams in upland areas. We must ensure these strongholds persist and renew efforts to save this much-loved species, through targeted conservation action and sustained monitoring programmes.'

The Environment Agency, Wildlife Trusts and others are working hard to save the water vole, with projects that establish where populations remain and what needs to be done to help them re-connect and expand across larger areas. Surveyors look for the occurrence of characteristic field signs such as droppings, feeding stations and burrows in order to detect their presence along water courses.

Safer passage for Fish and eels

Paultons Park, Hampshire



The Environment Agency has joined forces with family theme park, Paultons Park, to build a state-of-the-art fish pass in its Hampshire grounds.

The recently completed £200,000 project has involved the construction of four fish passes with modifications to four weirs along a 150m stretch of the Cadnam River. The ambitious scheme was devised over three years and took four months to build. The work was carried out under the Water Framework Directive (WFD) which aims to protect and improve the quality of water environments, helping to support habitats and the wildlife which depends on them.

A fish pass is a structure which allows fish to ascend the river when an obstruction, such as a weir, blocks their natural progress upstream. A fish pass is designed to be technically suitable for the species of fish most likely to need it.

Eels, which are an endangered species, require a much different type of pass to coarse and salmonid



fish but the scheme at Paultons Park will make way for all types. On site cameras (which are yet to be installed) will help to monitor and record which species are using the upstream fish pass with eel numbers being of particular interest.

This project is just one of 25 that the Environment Agency's Fisheries and Biodiversity Team have completed over the past year. This project alone has opened up more than 90 per cent of the Cadnam catchment to migrating fish and it will significantly increase the number of fish using the river.



Hannah Barclay, Environment Agency Fisheries & Biodiversity Project Officer, said: "The construction of these fish passes is part of a wider regional programme of works by the Environment Agency to improve fish migration over man-made barriers in our rivers. *"We're delighted to be able to do this with the support of Paultons Park as it will bring significant benefits to the local environment and wildlife in future years, as well as providing local schoolchildren with a wonderful educational resource."*

Mark Taylor, Paultons Park general Manager, park operations, said: *"We are pleased to have worked with the Environment Agency on the new fish pass. As Paultons Park is located in 140 acres of parkland on the edge of the New Forest National Park we are responsible for ensuring the welfare of all the species located within the Park."*



Ladybridge Weir fish pass the River Tame for migration

The Environment Agency has recently completed an eighteen week project on the River Tame in Tamworth, opening up over 37km of river to migrating fish. The work is being carried out under the Water Framework Directive (WFD) which aims to protect and improve the quality of water environments, helping to support habitats and the wildlife which depends on them.

Improvements to the Ladybridge Weir, which currently acts as a barrier to fish, started in March this year and have faced snow, floods and more recently a heat wave.

The work has involved installing a fish pass, which uses a set of plates or "baffles" set within a concrete channel. The baffles slow the water down and create water conditions which make it easier for fish to pass. There is also a special section to allow eels to migrate through the fish pass. These improvements mean that fish and eels can move freely upstream to reach spawning grounds, where they once were unable to.



pass opens up migrating fish

Christopher Grzesiok,
Fisheries Technical
Specialist for the
Environment Agency said:

"Construction of this fish pass at Ladybridge Weir is part of a regional programme of works by the Environment Agency to improve fish migration over man-made barriers in our rivers.

During the works, many fish have been seen by the construction crew trying to jump the weir. This shows the importance of installing a fish passage at Ladybridge Weir.

The new fish pass opens up over 37 km of river to migrating fish and it will increase the number of fish using the river. We're delighted to be able to do this as it will bring significant benefits to the local environment and wildlife in future years."

Stoneleigh Weir fish pass

On Friday 13 September, the Environment Agency completed a project to install a fish and eel pass at the Stoneleigh Gauging Weir on the River Sowe.

The fish now have free passage for the first time since the weir was constructed in 1951.

The fish pass has been installed to improve fish and eel migration, making an important contribution to improving water quality and biodiversity on the river. Work began in February 2013, and the project costs came in at £400,000.

Previously, fish and eels were not able to pass over the weir to reproduce, find food supplies and reach important habitat to shelter from predators. The pass works by slowing the speed of the water and increasing depth, allowing for improved fish migration, and will improve fish stocks on the River Sowe and Avon over the upcoming years.

This fish pass features a 'larinier' design, which is a set of 'baffles' or plates, on a slope shallower than that

of the existing weir. This design was chosen for Stoneleigh as it doesn't affect the accuracy of data from the gauging weir, which measures the river's flow rates and provides data for flood warnings.

The Stoneleigh pass, in combination with a fish passage project at Baginton Mill which was completed in 2012, has opened up approximately 20 km of upstream watercourse to a range of fish and eel species.

The work at Stoneleigh is part of the wider Midlands Fish Pass Project, which aims to create unrestricted fish passage throughout rivers in the Midlands.



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Rapid Sludge Dewatering

As part of their quest to find innovative treatment and re-use solutions for difficult and wet waste materials Land and Water Services Ltd (LAWS) has been using Geotube® Technologies for the accelerated, onsite, dewatering of difficult sludges for Anglian Water Services Plc. On a live contract at Pitsford Water Treatment Works, LAWS technology, combined with innovative, low impact dredging techniques, has seen a substantial reduction in the over-all quantities of difficult materials for disposal.

Dredging Operations

Dredging works can be conducted with the water remaining in the water body, which negates the need for expensive dewatering, fish rescue and habitat protection measures.....the "Status Quo" is maintained throughout the operation. For larger contracts LAWS road transportable cutter-suction dredger can be deployed, with a 10" suction head, this unit can achieve high dredge outputs in water depths from 600mm to 6m.

Steve Massey, Land and Water's Divisional Business Manager commented on the use of this technology and the scope of application;

"This method delivers a solution to Clients where they can dramatically reduce the quantity of sludge for disposal with minimal impact to the environment in a quick and safe manner."

Bio solids Recycling and Environmental Compliance Manager for Anglian Water Services, Gary Cunliffe comments:

"Using the Geotube technology will enable us to separate solids from liquid at site, and provide savings on haulage, and disposal costs and drastically reduce the carbon footprint of lagoon sludge dewatering"



Versi Dredger with 10 inch cutter head.

On smaller projects one of LAWS versatile, amphibious tool carriers can be equipped with a 4" capacity boom mounted, scroll feed, suction pump; and on sites where bankside access is acceptable a dipper mounted, high capacity sludge pump can be fitted to any of LAW's 52 long reach excavators.



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Long reach excavator with pump attachment



Rapid Dewatering

The sludge mixtures are delivered via pipeline directly to the Geotube® containment system. Constant monitoring of the input feed pipes enables the dedicated process engineer to adjust and inject the correct mix of polymers and coagulants to the pump mix immediately prior to it entering the bag.



Constant monitoring of pumped mixture prior to entering the Geotubes®



Surface water tension breaking



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Once inside the bag the sludge and flocculent mix causes the rapid binding of the free sludge particles, liberating clean water. The clean water is then ejected from the micro-pores of the TencateGeotubes® and returned to the water-body, leaving high concentrates of the sludge within the Geotubes®.

Whilst up to 99% of the particulates are retained within the bags, the bulk of the water is liberated instantly. After

the final cycle of filling and dewatering, the solids remain in the bag and continue to increase in density due to desiccation as residual water vapour escapes through the fabric. The result being that when the bag is finally opened the sludge concentration has significantly increased leaving a dry "soil" to be excavated for recycling or controlled disposal.

Versatile Configuration

Geotubes® can be configured to suit individual sites with minimal space and/or differing sludge make-up using expert technical and installation teams. The Geotubes® are arranged on a temporarily lined surface such that any clean waters that are released from the bags

can be swiftly returned to the water-body under gravity. Where appropriate, drinking water quality polymers are used to ensure that no negative impacts are reflected back to the originating water-body.

At PitsfordWTW LAWS successfully completed the dredging and recovery of more than 2,500m³ of fine particle sediments, resulting in a final retained volume in the dewatered bags of less than 400m³.



Above: Dosing station configured to requirements

Below: Site layout configures to available space



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Crackdown on damaging invasive non- native plants and animals



South American Water Primrose

- Invasive species pose a major and fast growing threat to native biodiversity in Europe.
- Plants and animals that find their way into new, unfamiliar habitats, can overwhelm native flora or fauna and damage the environment. These organisms are known as 'invasive species'.
- They also have a social and economic impact, for example on human health, fisheries, agriculture and food production.
- More trade, tourism, and transport of goods across borders have accelerated their spread.
- The European Union today spends at least €12 billion a year on control and on damage caused by invasive species.
- The EU has recently put forward proposals for a Europe-wide strategy to combat invasive species.
- Early detection is vital: it is much easier and more cost-effective to tackle incoming species before they become established.
- Raising awareness among the public about invasive species is a condition to win this battle.

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River restoration & management

A new European-wide Regulation will aim to better prevent the spread of invasive species, of which there are currently over 12,000 in Europe. Until now, there has been no EU-wide coordinated response to the increasing threat posed by invasive non-native species, which have been able to cross international borders with impunity. The level of action across the EU has at best been patchy resulting in weak and uncoordinated protection, and wildlife across the EU has suffered as a result.

The proposed new Regulation would oblige countries to carry out surveillance and risk assessments; identify how species get in and out of their territory and tackle those pathways; identify species of concern; set up early warning systems; and establish plans for rapid action.

Britain faces several threats to its native plants and animals, despite the barrier of the English Channel. They include signal crayfish, Asian hornet, harlequin ladybird and South American water primrose which forms dense mats that choke native fish and plants of oxygen, nutrients and light. Invasive plants and animals are estimated to cost the British economy at least £1.7bn, and the European economy more than £10bn, to control and manage each year.

If spread isn't prevented, the cost can increase drastically. For example it's estimated the current cost of controlling water primrose in its footholds in Britain is £73k, but this would rise to around £250m if it became widespread.



Pennywort



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the shallow water specialists



Signal Crayfish

The Government, plant suppliers, conservationists and other water users have already teamed up to help the British public find out how they can avoid accidentally spreading non-native species through two campaigns. Details of 'Be Plant Wise' for gardeners, or 'Check-clean-dry' for boaters and anglers, in addition to information on species to look out for, can be found at www.nonnativespecies.org

The news has been welcomed by Conservation organisations, including: Angling Trust, Buglife – The Invertebrate Conservation Trust, The Mammal Society, National Trust, Northern Ireland Environment Link, Plantlife

The Rivers Trust, Royal Society for the Protection of Birds, Salmon & Trout Association, Wildfowl & Wetlands Trust, The Wildlife Trusts and the Woodland Trust

"Britain's much-loved plants and animals are under relentless attack from invaders, as headlines about ash-tree 'dieback' - a fungus which originated in Poland - have shown."

"The Government has already taken positive steps, like banning the sale of some damaging invasive plants. But this is not a problem the UK can tackle on its own, and Europe as a whole is a long way off the vision of a Europe-wide defence system, and that leaves the UK's wildlife vulnerable."

"This Regulation is great news because it highlights the need for countries to work together to prevent the spread of invaders. If accepted across Europe, it would mean countries working together to identify how and where species cross borders, assessing the risks and taking action to prevent expensive damage before it happens."

"Although the Commission has proposed limiting these measures to just 50 out of the 1,500 or more damaging invasive non-native species present in the EU, many of which represent a serious threat to the UK's wildlife. Conservation groups will be working to ensure this Regulation is effective in tackling all invasive non-native species across Europe."



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Invasive plant exhibit at London Wetland Centre



Richard Benyon and Martin Spray opening the exhibit

A colourful exhibit which helps gardeners and pond owners and to avoid the spread of damaging invasive non-native plants has been opened at London Wetland Centre by Environment Minister Richard Benyon.

Invasive non-native plants and animals cost the British economy at least £1.7bn each year. Water plants in particular spread easily – even the tiniest dropped fragment can grow into huge dense mats which choke native British wildlife of light, space, oxygen and nutrients.

Gardeners and pond owners can help to stop the invasion by composting plants carefully and not sharing them between ponds.

But they all need to know what they're looking for. So, with the help of Defra funding, WWT has made lifelike models of the six worst invasive water plants which are prone to escape in Britain and pointedly housed them in cages to show they need to be contained in order to protect British wetlands!

Five of the six plants will be banned from being sold in England and Wales from next April. They are water primrose (*Ludwigia grandiflora*, *Ludwigia peploides* and *Ludwigia uruguayensis*), parrot's feather (*Myriophyllum aquaticum*), water fern (*Azolla filiculoides*), floating pennywort (*Hydrocotyle ranunculoides*) and New Zealand pygmy weed (*Crassula helmsii*). The sixth plant on display is Himalayan Balsam (*Impatiens glandulifera*), which is not for sale in England and Wales.

The new exhibit will support that ban by showing nearly 200,000 visitors a year to London Wetland Centre why these plants are such a problem, and how they too can help to protect Britain's wetlands.

For more details on how to "Be Plant Wise", check out Defra's non-native species website:

<https://secure.fera.defra.gov.uk/nonnativespecies/beplantwise/>

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