Press release: Beavers to return to Essex for the first time in 400 years

A pair of beavers will be heading to a new home in North Essex as part of a pioneering natural flood management scheme for East Anglia.

It is hoped the Eurasian Beavers will improve biodiversity and help to reduce local flood risk as part of a new approach to flood prevention at the historic Spains Hall Estate, just upstream of the picturesque village of Finchingfield.

The Environment Agency is working in partnership with Spains Hall Estate, the Essex & Suffolk Rivers Trust, Essex Wildlife Trust and others, with funding from partners including the Anglian Eastern Regional Flood and Coastal Committee (RFCC).

The whole story will be captured in a documentary series, due to be screened next year, overseen by renowned wildlife filmmaker Russell Savory for independent film company Copper Productions.
The beavers will have a territory covering 4 hectares, with plenty of trees to get their teeth stuck into and a boundary fence helping to keep them safe. Beavers have not been found in Essex for 400 years since they were hunted to extinction, although they have been reintroduced in small numbers in other parts of the country in recent years.

A second element of the project will involve man-made natural flood management measures being introduced on a separate strand of Finchingfield Brook at Spains Hall Estate. As well as helping to slow the flow after heavy rain, the scheme should also create wetland that will slowly release water in drier periods.

Spains Hall Estate owner Archie Ruggles-Brise said he was excited to welcome the beavers to the estate, home to his family for 250 years.

He said:

> We have experienced first-hand the disruption caused by flooding in Finchingfield so we are excited to be able to contribute to this novel approach to reducing flood risk, an undeniable public good.
>
> The added attraction of being able to pit nature against man to see who ‘does it better’ will be a rare chance to learn and adapt our approach.
>
> We hope the project will also focus a spotlight on our little corner of rural North West Essex, a hidden gem normally only enjoyed by those in the know. We are keen to welcome more people to the area so they can see for themselves what they might be able to do back home.

The Environment Agency's Matt Butcher said it was a "pioneering" project for East Anglia. He said:

> Natural Flood Management can be a great way to reduce flood risk for communities where traditional flood defences are not appropriate. Introducing leaky dams along Finchingfield Brook should slow the flow and reduce flood peaks downstream whilst improving habitat in this fantastic landscape.
>
> The beavers bring another exciting dimension, as we can assess how effective they are at creating amazing new wetlands and as flood engineers.

Essex County Councillor and RFCC member Simon Walsh said:

> Natural Flood Management provides many opportunities to explore innovative solutions for local flood risk concerns. Working with nature, we can often achieve successful outcomes to better protect people and property from flooding, whilst at the same time improving the environment for wildlife.
>
> Beavers are renowned for felling trees and building dams and to use them for natural flood management is really exiting, as not only are more properties protected from flood risk, but animals once lost to the British countryside are being re-introduced in lowland Britain.

Darren Tansley, river catchment co-ordinator for Essex Wildlife Trust, said:

> Working with Government, other conservationists and a forward thinking landowner to reduce flood risk in Finchingfield is an ideal opportunity for Essex Wildlife Trust. But the partners that eclipse us all are surely the beavers; natural engineers of our freshwater environment that we hope will trigger an explosion of biodiversity in their wake.

Essex & Suffolk Rivers Trust chairman Andrew Davies said:

> This project brings river improvement through Natural Flood Management, betters the river environment for many other species and by raising the profile of beavers, educates us all. It achieves many of our objectives as a Rivers Trust. It is a very exciting project for us to be involved with.

Notes to editors

Hunted to extinction

The Eurasian Beaver is a large semi-aquatic native mammal that was once widespread throughout Britain. They were hunted to extinction by the beginning of the 16th Century for their meat, fur and scent glands.
The species was reintroduced into parts of Scotland since 2001 and earlier this year a pair were released into the Forest of Dean in Gloucestershire, an event attended by Environment Secretary Michael Gove through a partnership with the Forestry Commission and Natural England.

Keystone species

Beavers are a 'keystone species' – playing an important role in wetland ecology by creating ecosystems that provide habitats for many other plant, insect and mammal species. Few other animals, aside from humans, have the ability to so drastically modify and shape their surrounding environment.

For this reason beavers are often referred to as "ecosystem engineers". Beavers are well known for their ability to fell trees to dam shallow watercourses and create pools to make them feel safe.

The associated wetlands, interconnecting beaver canals, coppiced woodland, glades and deadwood provides rich and diverse habitat for an abundance of wildlife including plants, insects, amphibians, reptiles, birds and mammals.

For more details visit the project web page
www.spainshallestate.co.uk/nfm_beavers

Contact

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Press release: Beavers to return to Essex for the first time in 400 years

A pair of beavers will be heading to a new home in North Essex as part of a pioneering natural flood management scheme for East Anglia.

Press release: Van crushed for Berkshire waste offences

Green Transit connected to waste crime across southern England

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News story: Standing on the shoulders of giants in a rising sea

Standing on the shoulders of giants in a rising sea
Emma Howard Boyd speech to the Global Engineering Congress
London, 24 October 2018

Thank you and good afternoon.

This year, marks 200 years since the founding of the Institution of Civil Engineers.

Now, I haven't been involved in environmental protection for quite as long as 200 years – but for as long as I have, successive UK Governments have been asked to set out their long term ambitions for the environment.

In January, the Government did just that, and launched the 25 Year Environment Plan.

For me, a crucial passage says:

"We will take all possible action to mitigate climate change, while adapting to reduce its impact. We will do this by… Making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century."

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Two weeks ago, the Intergovernmental Panel on Climate Change said limiting global warming to 1.5ºC would bring benefits, but failure would be disastrous.

That disaster was summarised last week, at the launch of the Global Commission on Adaptation, as "hotter days, fiercer fires, bigger storms, rising and more acidic seas, shifting crop patterns, and the spread of tropical diseases into uplands and formerly temperate zones… among other

threats."

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I know you already know that.

Looking at the agenda for the Global Engineering Congress, I've seen sessions covering just a small selection of the challenges accelerated by climate change.

I've seen seminars such as:
• "The Case for non-sewage sanitation"
• "An introduction to resilience in an urban context"
• And, "Sustainable structural design: energy efficiency vs structural efficiency"

And, those are just three from today… Day three of five.

Clearly, there's a lot to understand and do.

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As engineers, you will be among the first people to find solutions to the problems brought by global warming.

Today, I plan to bring some other perspectives that I hope will be complimentary to your work.

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I'm going to talk about what's happening in Government and business (or "green finance", if you like), and then about how I think the Environment Agency and engineers can work together.

In short: I'll be talking about the biggest political, economic, and environmental challenge of our time.

And, no, I'm not talking about Brexit.

The business opportunities presented by climate change are generally better understood in terms of climate mitigation and "the low carbon transition".

You often hear people talking about getting the right "energy mix" to meet current energy needs, while reducing carbon emissions at a manageable rate.

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I think we also need to start talking about our "Adaptation Mix".

We already have a mix of natural and artificial systems for managing climate impacts, and by making good investments in infrastructure we can protect people now – and maximise prosperity in the future.

Mitigation and adaptation are mutually dependent.

Much has been written about coal and oil reserves becoming “stranded assets”. It is vital that we don’t invest in flooded or melting assets.

There is no point in engineering an energy efficient building that could be washed away in a flood.

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The Bank of England’s Prudential Risk Authority said last week:

“If losses related to physical risk factors are insured they can directly affect insurance firms through higher claims.

“Global insured losses from natural disaster events in 2017 were the highest ever recorded.

“The number of registered weather related natural hazard loss events has tripled since the 1980s and inflation-adjusted insurance losses from these events have increased from an annual average of around $10 billion in the 1980s to around $55 billion over the last decade.”

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There is another side to that.

The US National Institute of Building Sciences estimate that every federal dollar invested in resilience will gain a six-fold return.

In this country, the National Audit Office says that every £1 invested in flood management saves £9.50 in damages.

Earlier this year, the UK’s Green Finance Taskforce highlighted that clean growth involves both decarbonising our energy AND building in resilience.

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I feel particularly aware of this because I worked in financial services for over 25 years.

As an investor, I listen when Mark Carney says:
“Financing the transition to a low carbon economy is a major opportunity for investors and creditors. It implies a sweeping technological revolution, including investments in long-term infrastructure at roughly quadruple the current rate.”

The investment opportunities in the climate transition can be found in:
– smart technologies
– green mortgages
– low-carbon securities
– carbon trading
– insurance

– legal services
– consulting
– the architecture, design, and construction of infrastructure
– And, the management of rivers and coastal areas against flooding.

That’s a lot of opportunities for people, governments, businesses – and engineers.

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There is more positive news. One of the best places in the world to invest in green finance is here in London.

The international operations of the City of London; the existing expertise and demand for sustainable investments; and the fact that the London insurance market is a world leader in natural hazard protection – makes it one of the leading green financial centres globally.

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This has been supported by policy.

Next month, we celebrate ten years of the Climate Change Act – internationally ground-breaking legislation that made the UK the first nation to set legally-binding targets for reducing carbon emissions.

It is flexible to the needs of the economy, but has a clear target: an 80% reduction of greenhouse gas emissions by 2050 compared to 1990 levels.

The Climate Change Act’s carbon budgets reduced greenhouse gas emissions to 43% below 1990 levels by 2017. The share of electricity generated from fossil fuels has decreased from 80% to 50% between 2008 and 2017, and no new coal-fired power stations have been built since the Act was passed.

It is still transforming the power sector.

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The current Government has put clean growth at the heart of the industrial strategy.

In his Mansion House speech, the Chancellor announced a Green Finance Institute to be set up in the City, providing firms with a one-stop-shop for climate science and capital.

The Prime Minister has said: “By making our buildings more energy efficient and embracing smart technologies, we can slash household energy bills, reduce demand for energy, and meet our targets for carbon reduction.”

Last week, the Minister of State for Energy and Clean Growth – and the Economic Secretary to the Treasury – announced they are working with the Infrastructure Projects Authority to explore how best to produce meaningful data demonstrating which infrastructure projects can be considered ‘green’.

That will help investors looking to place funds in green projects.

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Whatever else is happening in politics, the Government is showing it understands the need to leverage green finance, in order to prepare for climate change.

But now, I'd like to talk about engineering and the Environment Agency.

The Environment Agency works to create better, climate resilient, places for people and wildlife.

Our other, equally important, objective is to support sustainable development and green growth.

Our operational activities are essential to the success of the 25 year plan.

My colleagues improve people's livelihoods, protect the natural world, and help businesses to grow. They also demonstrate progress towards international targets like the UN's Sustainable Development Goals.

We manage and maintain around 7,000 km of flood defences on main rivers, around 1,000 km of coastal defences (such as sea walls), 17,000 structures, and have permissive powers to maintain flood defences on 36,000 km of main rivers.

Engineering is central to who we are. Over 400 of my colleagues are engineers, from new graduates through to the most senior levels of the organisation.

Engineers maintain and operate national icons such as the Hull Barrier, the Medmerry coastal realignment scheme, and The Thames Barrier.

We were enormously pleased you included the Thames Barrier in the bicentennial ICE 200 list, celebrating inspiring structures that show the value of civil engineering to society.

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We look to balance grey and green infrastructure in our flood schemes, and natural flood management is an important theme in the Government's 25 Year Plan.

During a flood incident – when our decisions come under the most scrutiny – the discussion can often focus on a false choice between hard and soft engineering – but we do not recognise a conflict between them.

Actually, they support each other – as I saw last year, at Hondsbossche Dunes in The Netherlands.

The Dutch call the dunes “climate buffers”, because they extend the lifetime of the existing flood defences.

Natural Flood Management can be a cost-effective and sustainable way to manage flood risk alongside traditional engineering. It also creates habitat for wildlife and helps regenerate rural and urban areas through tourism.

This mix of what nature provides; what we can innovate technologically; and what we build, is part of what I mean by “our adaptation mix”.

The adaptation mix is essential for meeting the Government’s 6 year flood programme target of reducing the flood risk from rivers, the sea, groundwater, and surface water, for at least 300,000 homes by spring 2021.

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Everyone needs to consider their flood risk more systematically.

Right now, 5.2 million homes and businesses in England are at risk of flooding, but the reality is that nowhere is 100% flood proof.

It is in people’s best interests to consider property level resilience measures for their own property and I ask you, as engineers, to make flood resilience the norm in all development – not just in areas most obviously at risk.

We welcome the recommendation – put forward by Sir John Armitt and the National Infrastructure Commission – for a national standard of resilience for flooding with an annual likelihood of 0.5% by 2050, where feasible. And, with a higher standard of 0.1% in densely populated areas.

We need to carefully consider what this would look like in reality, but we look forward to discussing this further with the National Infrastructure Commission and ICE.

The Environment Agency is lucky to consider ICE a partner and friend.

This is demonstrated at an individual level: Ayo Sokale, a graduate civil engineer at the Environment Agency, is a member of the prestigious ICE President’s Future Leader scheme, and is working towards her Chartered Engineer professional accreditation.

A fantastic achievement.

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At an organisational level, we share the same concerns.

Last week, ICE made a crucial intervention on climate resilience, with the State of the Nation report on infrastructure investment.

Lack of water resources is not a futuristic concern.

From May to July, we saw the driest 3 month rainfall total for England since 1921. The average temperature this summer was the highest since records began in 1910.

The Environment Agency is committed to delivering the proper and efficient use of water resources.

We are a statutory consultee and government advisor on water company water resource management plans. These set out how companies will balance supply and demand, taking into account population growth, climate change, and environmental needs over a 25 year period.

We are working with the water companies to make sure the plans increase resilience through collaboration within the sector, as well as with other sectors, Government, and regulatory bodies.

We are also supporting the development of the national policy statement for water.

This will help the development of nationally significant infrastructure by streamlining the planning system – making it easier for water companies to build new schemes such as transfers or reservoirs.

We look forward to working with ICE on this.

As we look to manage the next 25 years of environmental change, perhaps just as important as finance and policy, is preparing the ground for the next generation.

The Environment Agency is a great place to work.

We provide support for engineers to progress their professional development and provide comprehensive training. We offer great, flexible careers that make a real difference to people’s lives.

But we can do better.

100 years after the Institution of Civil Engineers was founded, women got the vote.

Yet, women still make up less than 11% of the engineering sector.

Around 15% of the Environment Agency’s engineers are women and we want to achieve a target of at least 30% female engineers by 2030.

Our aim is for 50% of successful candidates to our yearly Graduate Training Scheme to be women, and we intend to actively attract women applicants through advertising.

There is a large skills gap looming, and more diverse workforces have more to offer – so it has never been more important to encourage more people – both women and men – to choose a career in engineering.

To conclude:

Climate change brings many new and dangerous threats, but over the last 200 years, innovation and excellence in UK engineering has given us strong foundations to build on, and advance with.

We are standing on the shoulders of giants. Severe weather threatens to throw us off, so we must be resilient and learn to adapt.

The impacts of global warming over the next 25 years are undoubtedly terrifying – but if we successfully manage our energy mix and, I would suggest, our "adaptation mix" too, there will not only be benefits to people and the natural world, there will also be huge opportunities for people, businesses, governments…

And engineers.

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So, here's to the next 200 years of the Institution of Civil Engineers, and your work to secure a safe, green, prosperous future for everybody.

Thank you very much.

News story: Standing on the shoulders of giants in a rising sea

Emma Howard Boyd, Chair of the Environment Agency, speech to the Global Engineering Congress – 24th October 2018